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**REGULATING ANTARCTIC TOURISM:
MEASURES FOR PROTECTING THE
ANTARCTIC ENVIRONMENT**

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ABSTRACT

Tourism in Antarctica is considered a legitimate activity, but as visitor numbers increase, there is concern that it should be regulated so as to minimise the human footprint on the Antarctic environment. This paper argues that present regulatory measures are not effective in protecting the environment and in light of the recent Protocol on Environmental Protection to the Antarctic Treaty, the international community is under a moral obligation to develop further measures which will address the specific problems that Antarctic tourism presents.

Regulation of human activity in Antarctica must be examined in the context of the continent's unique status in international law, as no one country has sovereignty over any part of it. The Antarctic Treaty System contributes to the difficulties of imposing regulations on tourism because there are inadequacies in enforcement procedures. However, some measures have been taken which limit the activities of tour operators and visitors. The most significant of these is the Protocol on Environmental Protection, which contains a number of mechanisms which should be developed to provide a more specific response to tourism.

Further regulation must be accompanied by research which will provide information on how tourism actually impacts on the environment. These additional measures must then be implemented by national legislation and policy. Because of the multi-national nature of Antarctic tourism, international co-ordination is required, so that there is consistency and co-operation. Self-regulation by IAATO remains crucial since IAATO's guidelines are more comprehensive than Antarctic Treaty System efforts, and operators comply with them voluntarily.

The text of this paper (excluding contents page, footnotes, and bibliography) comprises approximately 14,970 words.

I. INTRODUCTION

The Antarctic continent is covered by a 14 million km² sheet of ice which makes up 10% of the world's surface¹ and its environment needs to be protected for two main reasons. Firstly, the continent offers the opportunity for scientific study of a unique and almost undisturbed natural region and secondly, it has a significant influence on global climate, water and biological conditions.²

Karl Marx identified the dilemma facing the relationship between tourism and the environment: tourism "...carries with it the seeds of its own destruction."³ While there are "...no grounds for opposing people's desire to visit the far South",⁴ placing limits on Antarctic tour operators and visitors through effective tourism management policies will help to minimise the human footprint on the continent.

While this impact seems to be slight to date, numbers are constantly increasing and the industry will continue to expand and diversify. Caution is important in this area, as environmental impacts from human activity may not appear for long periods of time. The international community has the unique opportunity to prevent harm occurring, rather than having to react when it is too late. More effective management of tourism will be consistent with the international community's commitment to protect the Antarctic environment, which is evidenced by the signing of the Protocol on Environmental Protection to the Antarctic Treaty in 1991.⁵

This paper will illustrate that regulatory measures exist which are capable of minimising the effects of Antarctic tourism, if there is a greater focus on the specific

¹ "Antarctica and New Zealand" (MERT unpublished paper April 1993) 1.

² Ludger Kappen "Ecological Aspects of Exploitation of the Non-living Resources of the Antarctic Continent" in Rudiger Wolfrum *Antarctic Challenge* (Duncker & Humblot, Berlin, 1984) 211.

³ Ian Hay "Science and Tourism - An Uneasy Cohabitation" Australian National Antarctic Research Expeditions (ANARE) News (Autumn 1993) 4.

⁴ "A Strategy for Antarctic Conservation" (International Union for the Conservation of Nature, The World Conservation Union, Gland 1991) 55.

⁵ The Protocol on Environmental Protection to the Antarctic Treaty, October 3, 1991 30 ILM 1455 (Nov. 1991).

issues that tourism raises. The best approach is to regulate via national legislation and then co-ordinate these policies so that there is consistency and overall control, since the Antarctic Treaty System (ATS - the management mechanism responsible for the region) has failed in this respect. The primary aim is to set performance standards to be applied uniformly to all tour operators and be able to enforce these.

In order to understand constraints on regulating Antarctic tourism, a background of Antarctica's status in international law is necessary. This paper will firstly outline this status, including a brief description of how the Antarctic Treaty System works. This will be followed by an outline of the present level of tourist activity, and possible future developments. The third section of this paper will discuss the problem of human impact on the Antarctic environment, with a special focus on tourism. It will then analyse the adequacy of the present measures regulating tourism, with a particular focus on the recent Protocol on Environmental Protection, which regulates all human activity in Antarctica. Finally, this paper will examine options for an improved, more specific response which utilises existing measures.

II. THE STATUS OF ANTARCTICA IN INTERNATIONAL LAW

A. *Claims of Territorial Sovereignty*

Seven countries have asserted territorial sovereignty and maintain portions of Antarctica on the basis of discovery, exploration and effective occupation - Argentina, Chile, New Zealand, Australia, Great Britain, Norway and France.⁶ As well as the claimant states, there are also five countries that neither assert nor recognise territorial claims to Antarctica but still reserve the right to assert a claim in the future.⁷ The claims of Argentina, Chile and the United Kingdom overlap but they do not recognise each other's claims.

⁶ William M Welch "The Antarctic Treaty System: Is It Adequate to Regulate or Eliminate the Environmental Exploitation of the Globe's Last Wilderness" (1992) 14 *Hou.JIntL* 597,614.

⁷ Belgium, Japan, South Africa, former Soviet Union, United States.

These claims are not widely recognised by the international community and most experts agree that no country has a perfect claim to sovereignty. This is because discovery only confers an inchoate title, giving rise to an exclusive right to occupy. For the sovereignty claim to be perfected, it must be completed by effective occupation within a reasonable period of time.⁸ There is no agreement as to a precise figure for "reasonable" but writers have suggested anything between 20 and 40 years.⁹ The amount of control that effective occupation involves is unclear. It has been suggested that actual occupation may not be necessary in Antarctica, so long as a nation has continually expressed its will or intent to permanently occupy its sector but has found it unrealistic or impossible as a result of the severe climate.¹⁰ It has been held that less will be required for remote, uninhabited and inaccessible portions of the globe than for a populated area in relative proximity to the claimant state.¹¹

While the presence of a scientific research station is unlikely to be seen as effective occupation, Chile has created a settlement of over 100 families on King George Island, with a school, telephone, radio, television and hotel, in an attempt to demonstrate effective occupation. Some writers also argue that a State can demonstrate it has effectively exercised sovereignty over distant territories on the basis of largely formal acts, such as the enactment of laws and assertion of jurisdiction.¹²

All claimants, except Norway, also apply some version of the sector principle to assert their claim of sovereignty.¹³ Closely related to this is the theory of

⁸ FM Auburn *Antarctic Law and Politics* (C. Hurst & Co., London, 1982) 9; Rodney R. McColloch "Environmental Protection of Antarctica" (1992) 22 Ga.J.Int'l & Comp L. 211, 221.

⁹ See Auburn, above n 8.

¹⁰ Rodney R. McColloch "Environmental Protection of Antarctica" (1992) 22 Ga.J.Int'l & Comp L. 211, 222.

¹¹ *Eastern Greenland Case* (1933) PCIJ Ser. A/B No. 53, 22.

¹² James Crawford & Donald Rothwell "Legal Issues Confronting Australia's Antarctica" (1992)

13 AYrbokIL 53,57.

¹³ This theory has been applied to the Arctic. The sector theory sets Antarctic territorial boundaries along longitudinal lines, which converge on the South Pole, from one of two baselines: (i) the mainland boundaries of the claimant State, or (ii) the length of the Antarctic coast claimed by the state, dividing Antarctica up like pieces of pie. Above n 6, 615. There has been

contiguity, which is an extension of sovereignty from coastal settlements to islands, maintained by Argentina, Chile and New Zealand.¹⁴ Whether this theory can support claims is dubious because of the distance involved. There are more than 400 miles between the northernmost tip of the Antarctic Peninsula and Chile.¹⁵ Finally, the propinquity theory has also been argued - that when a State acquires sovereignty over a part of geographical unit, it acquires sovereignty over the entire unit.¹⁶

B. *The Antarctic Treaty System*

1. *The Antarctic Treaty 1959*

On December 1, 1959, twelve states signed the Antarctic Treaty in order to preserve the continent as an international laboratory for scientific research and ensure that it be used for peaceful purposes.¹⁷ Article IV enabled the claimant states to compromise and sign the Treaty because it specifically preserves and protects the legal position of all parties, so that the claimant states can retain their claims.¹⁸ "By leaving claims in limbo, Article IV 'is the lubricant that allows the Treaty to work'"¹⁹ It was deliberately drafted to enable States with conflicting interests to adopt differing views on its meaning.²⁰ Article IV does not prohibit any particular conduct, for instance the making and enforcement of laws, but simply

some debate over whether the sector theory can be modified and applied to Antarctica at all, as there are large parts of Antarctica opposite no country from which lines could be drawn.

¹⁴ Above n 10, 222.

¹⁵ FM Auburn Antarctic Law and Politics (C. Hurst & Co., London, 1982) 10.

¹⁶ Thus a research station could be used to support a claim to an entire geographical unit within which the base is situated. Above n 10.

¹⁷ The Treaty came into force on June 23, 1961.

¹⁸ Article IV (1) "Nothing contained in the present Treaty shall be interpreted as:

(a) a renunciation by any Contracting Party of previously asserted rights of or claims to territorial sovereignty in Antarctica;..."

(2) "No acts or activities taking place while the present Treaty is in force shall constitute a basis for asserting, supporting or denying a claim to territorial sovereignty in Antarctica or create any rights of sovereignty in Antarctica. No new claim, or enlargement of an existing claim, to territorial sovereignty in Antarctica shall be asserted while the present Treaty is in force."

¹⁹ Steve T Madsen "A Certain False Security: The Madrid Protocol to the Antarctic Treaty" (1993) 4 Col.J.Int'l.Env.L &P 458,460.

²⁰ Above n12, 104.

removes the international legal consequences of such conduct.²¹ Despite this, Chile and Argentina have stated that they intend to continue to strengthen their claims to sovereignty, clearly breaching the Antarctic Treaty.²² Other claimant states take a similar position without publicly declaring it.²³

As a result of Article IV, the Antarctic Treaty System is not an objective territorial regime because it rests on disagreement about territorial status. The Treaty simply applies as a contractual arrangement.²⁴

2. *The Operation of the Antarctic Treaty System*

Antarctic law and politics involves a complex combination of law, geopolitics, ecopolitics, diplomatic negotiations and political economics on a global scale.²⁵ An understanding of this is dependent on an appreciation of the deeply rooted legal, political, and emotional attachment to her territorial sovereignty in Antarctica felt by each claimant state.²⁶

There are now 40 member nations in the Antarctic Treaty System, but the Treaty is only binding on the 26 Consultative Parties who possess full voting rights.²⁷ The twelve original signatories automatically became Consultative Parties. Any nation may ratify the Treaty but for a new party to receive Consultative status, it must accede to the Treaty and then demonstrate an interest in Antarctica by conducting substantial scientific research.²⁸ This normally entails establishing a scientific research station. It would seem that a non-Consultative Party gains little from the

²¹ Above n 12, 63.

²² Argentina has publicly affirmed specific acts carried out while the Treaty is in force support its claim to sovereignty.

²³ For instance, Australia continues to assert sovereignty over Australian Antarctic Territory.

²⁴ Above 12, 87.

²⁵ Christopher C. Joyner "The Antarctic Legal Regime: An Introduction" in Christopher C. Joyner & Sudhir K. Chopra (eds) *The Antarctic Legal Regime* (Dordrecht, Boston, 1988) 6.

²⁶ Rolph Trolle-Anderson "The Antarctic Scene: Legal and Political Facts" in Gillian D. Triggs (ed) *The Antarctic Treaty Regime: Law, Environment and Resources* (Cambridge University Press, London 1987) 58.

²⁷ Above n 6, 620.

²⁸ Above n 6, 620, Art IX, para 2 of the Antarctic Treaty.

Treaty, but is expected to act consistently with it. They are now invited to attend Antarctic Treaty Consultative Meetings (ATCMs) as observers.

The Antarctic Treaty System also includes Conventions negotiated by the parties over the last 30 years. The Agreed Measures for the Conservation of Antarctic Flora and Fauna 1964,²⁹ the Convention for the Conservation of Antarctic Seals 1977,³⁰ and the Convention for the Conservation of Marine Living Resources 1980.³¹ The Convention on the Regulation of Antarctic Mineral Resource Activities (CRAMRA) 1988³² was never ratified by all the claimant states, as is required, so it never came into force. It has now been superseded by the Madrid Protocol 1991.³³

Another important element of the ATS are Recommendations of the Antarctic Treaty Consultative Meetings (ATCMs), which are held biannually. Agreement within the ATS is reached through consensus rather than through a majority. Recommendations do not become effective and part of the legal regime until they are approved and domestically ratified by all Consultative Parties in accordance with Articles IX(4) and XII(1) of the Treaty.³⁴ Even then, they³⁵

...do not constitute laws enforceable in any court but are guidelines, viewed as moral obligations by the Consultative Parties which could, if breached, do no more than subject a State to pressure and political sanctions.

A non-Consultative Party will only be bound if it has specifically accepted them.³⁶ Since the measures approved are usually watered down versions of initially stricter,

²⁹ Agreed Measures for the Conservation of Antarctic Flora and Fauna, June 2-13, 1964, 17 U.S.T. 996, 998, T.I.A.S. No. 6058 (1966), modified in U.S.T. 1802, T.I.A.S. No. 7692 (1973).

³⁰ Convention for the Conservation of Antarctic Seals, June 1, 1972, 29 U.S.T. 441, T.I.A.S. No. 8826 (entered into force March 11, 1978).

³¹ Convention on the Conservation of Antarctic Marine Living Resources, May 20 1980, 33 U.S.T. 3476, T.I.A.S. No. 10240 (entered into force April 7, 1982).

³² Convention on the Regulation of Antarctic Mineral Resource Activities opened for signature Nov. 25 1988, 27 ILM 859, 868 (1988).

³³ The Protocol on Environmental Protection to the Antarctic Treaty, October 3, 1991 30 ILM 1455 (Nov. 1991).

³⁴ Peter Beck *The International Politics of Antarctica* (Croom Helm, London, 1986) 32.

³⁵ Above n 4, 27.

³⁶ Gillian Triggs (ed) *The Antarctic Treaty Regime: Law, Environment and Resources* (Cambridge University Press, London, 1987) 55.

more specific measures, they are subject to a wider range of interpretation and discretion.³⁷

The consensus approach means that any decisions reached have the backing of all Parties and this will ensure that decisions will be implemented. However, this means that these decisions take longer to make, and negotiations on major issues can last six to eight years.³⁸ This unanimity also seriously limits the system's capacity to reach controversial decisions.

There is no Secretariat or institutional machinery within the ATS.³⁹ While this enables a certain degree of flexibility, which is responsible for the success of the Treaty, this is offset by a wide range of individual countries' views on what words of various measures and codes mean. States are not willing to accept any institution that may appear to derogate from their sovereign authority. Consequently, there is no mechanism to enforce rules and regulations, resulting in wide practice of compliance.⁴⁰

3. *The Antarctic Treaty and Third Parties*

Under international law, the Treaty is not binding on non-Treaty States.⁴¹ However, Charney suggests that under customary international law, less formal indications of acceptance of obligations under the Treaty may be enough and a

³⁷ Above n 6, 630.

³⁸ Above n 15.

³⁹ The Consultative Parties agreed at the XVIIth ATCM in 1992 to establish permanent Secretariat, and this will function as a depositary for information, and facilitate meetings.

⁴⁰ James Barnes "Protection of the Environment: Are Present Regimes Enough?" in Arnfinn Jorgensen-Dahl & Willy Ostreng *The Antarctic Treaty System in World Politics* (MacMillan Academic and Professionals Ltd., London, 1991) 200.

⁴¹ Article 34 of the Vienna Convention on the Law of Treaties provides "A Treaty does not create either obligations or rights for a third state without its consent." Vienna Convention on the Law of Treaties, opened for signature May 23, 1969, 1155 U.N.T.S. 331, 8 ILM 679 (entered into force Jan. 27, 1980). This clause represents customary international law regardless of whether a state has or has not become party to the Vienna Convention. See above n 19, 470.

number of States may therefore be bound as a consequence of oral and written statements made at the UN.⁴²

The ATCPs could take legal action against a third party if it was violating a norm of customary international law and there is some argument which supports the Antarctic Treaty creating such norms.⁴³ Customary international law develops when certain norms have been articulated and have formed the basis for state practice and are accepted as law. The Treaty parties sought to make norms applicable to the international community, such as demilitarisation, and all nations have acted in conformity with those normative statements.⁴⁴ However, these norms have developed over a relatively short time.⁴⁵ Even if there were no legal remedies, the Treaty is recognised internationally for its success as a valid regime, so a third party would have to jump a number of political hurdles if it was to act contrary to the rules of the 'club'.⁴⁶

III. TOURISM IN ANTARCTICA

Antarctic tourism began in 1957 with the first commercial flight landing at McMurdo Sound. Ship-borne tourism began in 1958 when an Argentine vessel made two cruises.⁴⁷ Since then, tourists are attracted to the continent's unique

⁴² Jonathan I. Charney "The Antarctic System and Customary International Law" in Francesco Francioni & Tullio Scovazzi *International Law for Antarctica* (Giuffrè Publishing, Milan 1987) 70.

⁴³ For further discussion see above n 19, 470 and above n 42.

⁴⁴ If these norms were customary international law it would not mean that the ATS is an objective regime such that a new recommendation would become binding automatically on the community. Above n 12, 93.

⁴⁵ "[T]here must in general be a recurrence or repetition of the acts which give birth to the customary rule... Apart from recurrence, the antiquity of the acts may be also a pertinent consideration." J.G. Starke *Introduction to International Law* (10th Ed. 1989) 38 in above n 19, 472.

⁴⁶ Above n 10, 227. The Consultative Parties have been criticised for their exclusive "club" nature because of the expense involved in attaining this status, and the associated power in making decisions covering all activities in Antarctica. Despite these criticisms, the ATS as a whole represents 80% of the world's population and includes all five of the permanent members of the UN Security Council. Debra Enzenbacher "Tourism at Faraday Station: An Antarctic Case Study" in (1994) *Annals of Tourism Research - Special Issue: Antarctic Tourism* 21 no. 2, 278.

⁴⁷ Robert Headland "Historical Development of Antarctic Tourism" in (1994) *Annals of Tourism Research - Special Issue: Antarctic Tourism* 21 no. 2, 275.

wildlife, pristine environment, solitude and spectacular scenery. Visitors can also avoid crowded areas usually frequented by tourists, and experience a sense of adventure created by a recent history of exploration.

Tourists are defined as visitors not affiliated in an official capacity with an established National Antarctic Programme.⁴⁸ Therefore, tourism includes commercial tourism operations, non-government expeditions and the recreation activities of government personnel.⁴⁹ The focus in this paper is on commercial tourism operations, as information on tourism is confined to this type.⁵⁰ Until 1966, virtually all expeditions to Antarctica had been organised by the government or had some measure of government backing.⁵¹

The number of tourists that have visited Antarctica now exceeds 52,000, and 96% of these are seaborne. At least 7,222 tourists entered the Treaty area during the 1992-1993 season. This represents an 11% increase over the previous year's high of 6,500.⁵²

Tourism operations are conducted during the austral summer over a period of three months. The Antarctic Peninsula is the most popular area to visit, firstly because of its proximity to South American ports,⁵³ its milder summer climate than elsewhere, diverse and abundant wildlife, and relative freedom from pack ice for landings. The Peninsula also has the largest concentration of Antarctic research stations.

A. *Shipborne Tourism*

⁴⁸ Debra Enzenbacher "Tourists in Antarctica: Numbers and Trends" (1992) 28 (164) *Polar Record* 17.

⁴⁹ CM Hall "Ecotourism in Antarctica and adjacent Sub-Antarctic Islands: Development, Impacts, Management, and Prospects for the Future" (April 1993) *Tourism Management* 117.

⁵⁰ The statistics that follow do not include off-duty Antarctic personnel, official inspection team members, distinguished visitors, tour operator crew and staff members.

⁵¹ "Antarctica and New Zealand - Unpublished Draft" (MERT April 1993) 26; Ian Nicholson "Antarctic Tourism - The Need for a Legal Regime?" in Rudiger Wolfrum (ed) *Antarctic Challenge II* (Duncker & Humblot, Berlin, 1986) 201.

⁵² Debra J. Enzenbacher "Antarctic Tourism: An Overview of 1992/93 Season Activity, Recent Developments, and Emerging Issues" (1994) 30 (173) *Polar Record* 105, 105-7.

⁵³ Sailing time to the Peninsula is approximately 2-3 days compared with 5-6 days from New Zealand to McMurdo. Neil Plimmer "Antarctic Tourism: Issues and Outlook Paper No. 10" (PATA Occasional Paper Series 1994) 1.

Regular annual tourist voyages began in 1966. Lars-Eric Lindblad had the first ice-strengthened tourist ship built - the *Lindblad Explorer*, in 1969.⁵⁴ An Antarctic cruise varies in length from 14 - 29 days. Ships can carry between 38 to 530 people.⁵⁵ A South Heritage Expedition 29 day cruise to the sub-Antarctic islands and Ross Sea region costs US\$9,321.⁵⁶ Visitors are accommodated on the ship and visit scientific stations and areas of ecological and historic interest.

Shipborne tourism continues to grow, with 35% of all Antarctic tourists travelling during the 1990-1991 through 1992-1993 seasons.⁵⁷ The number of tour operators in the 1992-1993 season increased to at least twelve operators, from ten in the previous year. On average, ships travelled 71% full and had they been fully booked, nearly 10,000 tourists would have visited in 1992-1993.⁵⁸

Private yachts carry up to 20 fare paying passengers. It is more difficult to obtain the precise numbers of small or non-commercial expeditions because the visits may not be reported.

B. Airborne Tourism

Airborne tourism represents less than 3% of tourist activity⁵⁹ and comprises of Twin Otter flights from Punta Arenas, Chile to Chile's Teniente Rodolfo Marsh Station on King George Island, and private commercial flights to the Antarctic interior. The Chileans began these flights in 1983-1984 and usually carry 40 passengers who stay at the first Antarctic 'hotel'.⁶⁰ Some operators offer a combination cruise/flight reducing cost and time, therefore allowing operators to target a larger tourist market.

Another major development in airborne tourism was the Antarctic overflight. Qantas and Air New Zealand began day flights over Antarctica, without landing, in

⁵⁴ John Splettstoesser, Melissa C. Folks "Environmental Guidelines for Tourism in Antarctica" in (1994) 21 no. 2 *Annals of Tourism Research* - Special Issue: Antarctic Tourism, 231.

⁵⁵ Above n 54, 232.

⁵⁶ "South Heritage Expeditions Presents Antarctica" brochure, 1994-1995 season. The Antarctic Peninsula cruises invariably leave from ports in Chile and Argentina, so airfares are additional.

⁵⁷ Above n 52, 107.

⁵⁸ Above n 52, 107.

⁵⁹ Debra Enzenbacher "Antarctic Tourism: 1991/1992 Season Activity (1992) *Polar Record* 240.

⁶⁰ A section of the base has been converted into a small tourist hotel.

February 1977. About 11,000 tourists had flown over the continent when flights ended in February 1980.⁶¹

Private expeditions are mostly conducted in the interior of the continent for adventurers and mountaineers. They are supported logistically by a private company, such as Adventure Network International (ANI), which began in 1984. During the 1992-1993 season, 127 passengers were transported to the interior by ANI.⁶²

C. *The Antarctic Tourist*

The Antarctic tourist is generally a wealthy, older person⁶³ with strong environmental beliefs, who is keen to adhere to guidelines.⁶⁴ Consequently, tourists can regulate each other's behaviour, and may want to report an operator if, for example, staff allowed tourists to touch wildlife. As a result of the tourist's unique and inspirational experience, conservation goals are promoted,⁶⁵ thereby increasing public awareness of the need for stringent regulation of human activity. Tourists can play a watchdog role over government agencies and also strengthen political support for scientific research.

⁶¹ Overflights were brought to an end by the Erebus tragedy on November 28 1979 when all 257 on board were killed. This disaster highlighted a major concern about Antarctic tourism which will not be discussed in this paper - safety. Only 6 weeks before the fatal Air NZ flight, the Antarctic Treaty Consultative Parties expressed reservations about tourist flights because they were operating in a particularly hazardous environment. Facilities are inadequate for emergency facilities, for instance accommodation for 200 passengers, and there are insufficient search facilities to look for missing aircraft.

⁶² Above n 54, 232. These flights can cost around US\$19,900 because there is only room for 8 people and refuelling requires an airdrop which costs US\$160,000. Charles Swithinbank "Airborne Tourism in the Antarctic" (1993) 29 (169) *Polar Record* 103, 104.

⁶³ In one survey of 183 passengers, over half were over 60 years. GR Cessford, PR Dingwall "Tourism on New Zealand's Sub-Antarctic Islands" in (1994) 21 no. 2 *Annals of Tourism Research - Special Issue: Antarctic Tourism*, 322.

⁶⁴ There have still been a number of observations of environmental ignorance and insensitivity. Eggs and plant specimens have been taken as souvenirs, elephant seals and penguins have been provoked for action photos. Codling reported on the impact of sea-borne tourism based on personal experiences and observations of one trip in 1982. John E. Hay, Stephen J. de Mora, Alan Hemmings, Simon M. Towle, Tania F. Dewitt "A Study of New Zealand Environmental Policy for Antarctica" (occasional publication *Environmental Science*, University of Auckland, March 1989) 114. However the 1993-94 United States Antarctic Program (USAP) Observer Program reported that when several passengers were advised they were approaching wildlife too closely, they corrected their actions without hesitation.

⁶⁵ PATA Statement to the XVth ATCM, October 1991.

D. *Future Developments*

Visitor numbers will undoubtedly increase. The United States National Science Foundation estimates that more than 8,000 ship tourists would visit over the 1993-1994 season.⁶⁶ Recently, a new operator to Antarctica offered trips, including return airfare for US\$2,950 plus port fees and tax.⁶⁷ These comparatively low-priced trips will open up tourism to a greater number of people. The capacity of ships is also growing with 50% of cruise passengers travelling on ships with a capacity of 250 or more during the 1992-1993 season.⁶⁸

There are now more itinerary choices and an increasing number of sites being visited.⁶⁹ The introduction of ice-breakers on tourist charters over the 1992 season opens the possibility of visits to ice-bound coastal regions.⁷⁰ Another new development was the introduction of helicopter flights into Antarctica's Dry Valley and Victoria Land, where tourists have not previously visited. In February 1993, one cruise ship landed 16 passengers and 4 crew to camp overnight and this is not known to have happened before.⁷¹

Further developments are hard to predict. The cost of adequate technology capable of handling tourism has confined most activity to cruises and overflights,⁷² but this does not rule out the possibility of the development of land-based facilities. Swithinbank maintains that any rapid growth in airborne tourism is unlikely because there are only four permanent runways in the whole of Antarctica. None has a finished surface and are not suitable for aircraft larger than a C-130 Hercules. The construction cost for an earthed fill runway was estimated at US\$223,400,000 in

⁶⁶ Above n 52, 111.

⁶⁷ Above n 52, 111.

⁶⁸ Above n 52, 107. For example the *Marco Polo* is estimated to carry 489 passengers on one cruise during the 1993-94 season. 1993-94 Antarctic End-of-Season Tourist Estimates (ship/aircraft) [Prepared by NSF from information supplied by Antarctic Tour Operators] 3.

⁶⁹ Seven voyages to the Ross Sea are planned for the 1994-1995 season. For the first time, a New Zealand operated ship will visit the Ross Sea. (Letter from Emma Waterhouse, Environmental Officer, New Zealand Antarctic Programme, 25 July 1994).

⁷⁰ Above n 63, 320.

⁷¹ Above n 52, 111.

⁷² Martijn Wilder *Antarctica: An Economic History of the Last Continent* (Department of Economic History, University of Sydney 1992) 72.

1979.⁷³ There are still also limitations due to the difficulties associated with emergency and navigational facilities.

IV. THE IMPACT OF TOURISM ON THE ANTARCTIC ENVIRONMENT

A. *Human Impact on the Antarctic Environment*

The Antarctic environment is most often described as being 'fragile' and 'unique'. This is due to the harsh climatic conditions and its isolation from other oceans. Vegetation is limited to lichens, algae, moss, fungi and microscopic plants, but are very sensitive to trampling.⁷⁴ The marine ecosystem contains relatively few species - bacteria, phytoplankton, seals, penguins and whales.⁷⁵ However, at least 60% of all terrestrial and 70% of all marine species are endemic to Antarctica.⁷⁶

All human activity has an impact on the environment.⁷⁷ In Antarctica, the development of human activity increases local pollution, degradation of habitats and disruptions for animal populations, with dramatic, long term effects.⁷⁸ Environmental degradation occurs particularly in ice-free patches, which make up less than 2% of the continent because human activity is concentrated in these areas,⁷⁹ and the use of these areas by flora and fauna is also relatively high.⁸⁰

⁷³ Above n 62, 108. However, blue-ice runways, can be used, and Adventure Network International has carried tourists to the interior in a Lockheed Hercules, providing safer operation and lower operating costs. Above n 62, 112.

⁷⁴ The living thalli are very dry and brittle and may break down completely. A moss cover that may have taken 200 years to form is easily blown away by the turbulence of a helicopter. Ludger Kappen "Ecological Aspects of Exploitation of the Non-Living Resources of the Antarctic Continent" in Rudiger Wolfrum (ed) *Antarctic Challenge* (Duncker & Humblot, Berlin 1984) 213.

⁷⁵ Because there are relatively few species, the foodchains are generally short. Short food chains and slow growth rates mean that environmental impacts are magnified. Jennifer Angelini & Andrew Mansfield "A Call for US Ratification of the Protocol on Antarctic Environmental Protection" (1994) 21 *Ecol LQ* 163, 170.

⁷⁶ C. Michael Hall "Tourism in Antarctica: Activities, Impacts and Management" (1992) *Journal of Travel Research* 2, 5.

⁷⁷ The majority of this information is taken from Alan Hemmings, Arani Cuthbert, Janet Dalziel "Non-Governmental Activities and the Protection of the Antarctic Environment - A Paper for the Government of New Zealand" (August 1991).

⁷⁸ Jacques-Yves Cousteau & Bernard Charrier "Introduction: The Antarctic - A Challenge to Global Environmental Policy" in Joe Verhoeven, Philippe Sands, Maxwell Bruce (eds) *The Antarctic Environment and International Law* (Graham & Trotman, London 1992) 6.

⁷⁹ Above n 76, 6.

⁸⁰ Buildings, runway and roads often occupy the nesting areas of penguins or petrels.

Plants and animals are displaced or destroyed during construction of infrastructure and must compete for terrain during human occupation. They are also affected by waste discharges and polluting emissions.

There are also direct impacts associated with transportation. These consist of physical disturbance of plants and animals by ships, aircraft, and oversnow vehicles. Transportation also creates problems through waste discharges, polluting emissions, such as noise, heat and noxious substances, and chronic pollution in the event of an accident.

Other impacts include secondary impacts which may take the form of one component of the environment leading to indirect impacts on another component. For example, road construction may lead to dust deposition in the near shore marine environment. Cumulative impacts are additive impacts of various activities which may individually present only minor or transitory problems but in toto, create an unacceptable impact.

B. Environmental Impacts Related to Tourism

The impacts tourism has on the environment are no different to the types of impacts discussed above, because the nature of activities - transportation, logistics and infrastructure, are the same, regardless of whether it concerns government or non-government activities, such as tourism. However, some impacts of tourism, such as the disturbance of animals, may be greater in intensity or pattern of incidence than government activity.⁸¹ Essentially, commercial tourism is different because it involves a large number of people in environmentally sensitive locations over short periods of time.⁸² Most tourists visit within a three month period, which coincides with the breeding time for a number of species. Tourists could also unintentionally spread new kinds of organisms to Antarctica, causing disease.

⁸¹ "Repeated visits to one location, a major characteristic of Antarctic tourism, may have a significant cumulative effect..." Ian Hay "Science and Tourism - An Uneasy Cohabitation (Autumn 1993) ANARE News 4.

⁸² Above n 76, 5.

Tourism is on a small scale in terms of the size of the continent as a whole. However, visits are concentrated in a few specific areas⁸³ which only make up about 1% of the continent.⁸⁴ "Activities which may have a negligible impact in terms of Antarctica as a whole may be of moderate significance in particular regions and of major significance in specific localities."⁸⁵

Masson summarises the problems aptly:⁸⁶

...some ecotour operators admit that no matter how carefully expeditions are run, the very presence of humans can affect a fragile environment...The more ecotourists there are, the more likely it is that the environment being visited will be damaged.

Lowflying aircraft represent a particularly severe hazard, and this is even more troubling with the recent increase in the use of helicopters for transporting tourists. Penguins will often abandon their nests and never return. Early frequent helicopter visits by diplomats and dignitaries visiting McMurdo Station quickly resulted in a 50% reduction in the Southern Most Adelie Penguin rookery at Cape Royds.⁸⁷

Another major concern is the risk of accidents and fuel spills, which result in costly rescues and clean-up operations. In 1989, the Argentinian ship *Bahia Paraíso*, a naval supply ship with 100 tourists onboard ran aground and spilt 180,000 gallons of diesel fuel and other petroleum products.⁸⁸ Even though several other cruise ships have run aground or got into some difficulty, no tourist ship has yet made a serious impact on the environment, since many are ice-strengthened.⁸⁹ However, the risk of accidents increases as ship numbers grow.

⁸³ There are only a few areas along the Antarctic Peninsula that permit safe landings by cruise ships. Bruce S. Manheim "Paradise Lost? The Need for Environmental Regulation of Tourism in Antarctica" (Environmental Defense Fund Wildlife Program, Jan 28, 1990) 3.

⁸⁴ Remarks by William Bush "The Future of the Antarctic Regime - New Directions" (1991) ASIL Proceedings 461, 473.

⁸⁵ Ian Nicholson "Antarctic Tourism- The Need for a Legal Regime" in Rudiger Wolfrum (ed) *Antarctic Challenge II* (Duncker & Humblot, Berlin, 1986) 192.

⁸⁶ D. Masson "Holidays to Help the Planet" *The Australian Magazine* (March 3-4 1990):50, 56 in Michael Hall, Mariska Wouters "Managing Nature Tourism in the Sub-Antarctic" in (1994) *Annals of Tourism Research - Special Issue: Antarctic Tourism* 21 no. 2, 358.

⁸⁷ Above n 83, 1. The most destructive intervention reported was when a low-flying Australian Air Force aircraft circumnavigated Macquarie Island, a sub-Antarctic island, causing 7,000 king penguins to stampede, pile up on each other and suffocate. Above n 62, 108.

⁸⁸ Above n 83, 1.

⁸⁹ The Lindblad Explorer suffered substantial damage when it ran aground in 1972 and 1979.

Establishing permanent onshore tourist facilities and infrastructure would have the greatest impact on the environment. While proposals in the past have failed,⁹⁰ land based tourism is still seen as a possibility for the future.⁹¹ This would create major problems of sewage, waste disposal, food and water supply and the provision of accommodation facilities. Construction of infrastructure, such as communication networks, roads, and all-weather airstrips, would also create a sizeable impact. As well as the direct impacts involved, tourist activity would increase - a secondary impact.

V. PRESENT MEASURES REGULATING ANTARCTIC TOURISM

Tourism is regarded as a legitimate human activity in Antarctica and an acceptable use of Antarctic resources.⁹² Tourism clearly poses an environmental risk in Antarctica, but this can be minimised by implementing effective regulation. There are already a range of measures which regulate Antarctic tour operations either directly or indirectly by virtue of tourism being a human activity.

A. *The Antarctic Treaty System*

The Antarctic Treaty itself does not specifically address the protection of the Antarctic environment, mainly because issues of environmental protection were not

⁹⁰ In 1989, a Sydney firm of architects, Helmut Rhode & Partners proposed an integrated tourism, environmental and scientific development to be located in the Australian Antarctic Territory. This was to consist of accommodation facilities for 344 visitors, 70 researchers and 174 staff. Human waste would be burnt, and this energy would be used as a source of heat. Non-governmental organisations opposed the proposal due to the risk of accidental pollution and increased pollution resulting from tourism expansion. They also argued that it would compete with flora and fauna for available ice-free land (less than 0.3% of land mass in AAT). Above n 76, 6. The Australian government called a national public inquiry into the whole tourism issue, resulting in a prohibition on further development until a conservation strategy was put into place.

⁹¹ Valene Smith has expressed a view that this is probable in "A Sustainable Antarctic: Science and Tourism" in (1994) 21 no. 2 *Annals of Tourism Research* - Special Issue: Antarctic Tourism 225.

⁹² "IUCN Policy on Antarctic Tourism" (submitted to XVIIth ATCM 1992) 1.

very high on the international agenda when it was negotiated. However, Article IX empowers Consultative Parties to adopt recommendations regarding the preservation and conservation of living resources.⁹³

The Agreed Measures for the Conservation of Antarctic Fauna and Flora 1964 were the first substantial attempt to address human impact in Antarctica. Many countries took over ten years to introduce implementing legislation and the Measures did not come into general effect until 1983.⁹⁴ The conservation provisions prohibit the taking of native species except in accordance with a permit, and designate "Specially Protected Areas".⁹⁵ The main drawbacks were that they only regulated land and ice shelves and did not apply to the protection of marine life in the adjacent seas, and lacked built-in enforcement mechanisms. Nevertheless, Consultative Parties are under an obligation to ensure that their nationals comply with these measures.⁹⁶

Parties to the Antarctic Treaty are under an obligation to inform other Contracting Parties in advance, of all expeditions to and within Antarctica under Article VII paragraph 5. This extends to official, government organised and sponsored expeditions and tourist and non-governmental expeditions. Scheduled commercial cruises or flights are normally reported to home governments so that this data can be exchanged. On the whole, Consultative Parties have not been diligent in the provision of this information.

Recommendations relating to tourism and non-governmental expeditions have been adopted at almost every biennial ATCM since 1966, in a gradual and pragmatic fashion.⁹⁷ These mainly concern the exchange of information on activities. The primary concern of ATCPs was to ensure that their own collective interests in

⁹³ Article IX (1) (f) Antarctic Treaty 1959.

⁹⁴ The Agreed Measures were originally an annex to Recommendations III-VIII, but by virtue of Articles III and XIII, the Consultative Parties have been legally required to implement the provisions of the Agreed Measures, since 1983.

⁹⁵ Article VI, Article VIII Agreed Measures of the Conservation of Antarctic Flora and Fauna.

⁹⁶ A Consultative Party would be in breach of its international obligations if a tourist defaced a historic monument or molested wildlife.

⁹⁷ Peter Beck "Managing Antarctic Tourism: A Front Burner Issue" in (1994) 21 no. 2 *Annals of Tourism Research* - Special Issue: Antarctic Tourism 378.

science were not put at risk by the activities of tourists and private operators, rather than any real concern over environmental damage.⁹⁸

Recommendation VIII-9/1975 acknowledged that tourism is a natural development in Antarctica and requires regulation. The government of the State where an expedition was being organised, must furnish notice of the expedition as soon as possible to the government of any party whose station the expedition planned to visit.⁹⁹

Recommendation VI-7/1970 provided that visitors cannot enter Specially Protected Areas (SPAs) and must respect designated historic monuments. The Consultative Parties also discussed the possibility of designating an adequate number of areas of interest that tourists would be encouraged to visit.¹⁰⁰ At the XIIth ATCM, it was decided that tour operators should be covered by adequate insurance and by some form of guarantee that would demonstrate responsibility for their activities.

B. National Legislation and Policy

The Antarctic Treaty System is supplemented by legislation adopted by individual Treaty Parties regulating their respective nationals. For example, the Australia Antarctic Territory Act 1954 provides for the application of national laws to AAT. The US Antarctic Conservation Act 1978 implements the Agreed Measures on Conservation, and applies to all US citizens, which includes any corporation organised under US law.¹⁰¹ The national element is becoming more significant not only because of the rule of flag-state jurisdiction, but also because Parties are formulating coherent tourism policies. The threat of withdrawing national support for tour visits is an important sanction used by individual governments to ensure compliance with national and ATS objectives.¹⁰²

⁹⁸ Unannounced visits would distract scientists and dangerous situations would require emergency assistance. Martijn Wilder & John Handmar "Towards a Conservation Strategy for the Australian Antarctic Territory: The 1993 Fenner Conference on the Environment (May 1993) 94.

⁹⁹ Recommendation IV-27/1966.

¹⁰⁰ Recommendation VII-4/1972. No Areas of Special Tourist Interest have ever been designated.

¹⁰¹ Above n 83, 3.

¹⁰² Above n 98, 95.

Each national Antarctic programme determines tour visit policy for its respective station(s). New Zealand takes a firm view of the need for responsible tourism in the Ross Dependency. The New Zealand Antarctic Programme requires tour operators organising tours from New Zealand to provide certain assurances and meet a number of conditions.¹⁰³ For example, tourist activities must be self-sufficient in all respects, all tour operators shall comply fully with the provisions of the Antarctic Treaty and report on activities undertaken in the Treaty area.¹⁰⁴

United States policy on tourism was formulated in 1967 and has not altered much since then. The US government does not control access to Antarctica by either US citizens or foreign nationals but does reserve the right to judge whether or not tourists can be admitted to any of its stations and under what conditions.¹⁰⁵ However, the US government reportedly refused permission for private flights to Antarctica and was able to do so because of its control over runway facilities and fuel supplies.¹⁰⁶

National law is strong on ensuring compliance, but weak with respect to regard for the interests of others.¹⁰⁷ For some countries, it may be politically or constitutionally awkward to place constraints on citizens beyond their national boundaries. National legislation is limited in its application, especially in light of the multi-national character of tourism. Any application of domestic legislation to another nation would be regarded as an exercise of sovereignty and would probably be challenged by other Treaty parties.

C. *Self-Regulation*

In effect, the Antarctic tourism industry is largely self-regulating. In 1989, three North American tour operators issued joint environmental guidelines for their

¹⁰³ "Antarctica and New Zealand" - Unpublished Draft (MERT April 1993) 26.

¹⁰⁴ "New Zealand Government Policy on Tourist and Private Antarctic Expeditions" (MERT, April 1990) 2.

¹⁰⁵ Philip W Quigg *A Pole Apart: The Emerging Issues of Antarctica* (New Press, New York, 1983) 102.

¹⁰⁶ Above n 97, 380.

¹⁰⁷ JA Heap "Antarctic Sovereignty: A Source of Stress?" in RA Herr, HR Hall, MG Haward (eds) *Antarctica's Future: Continuity or Change?* (Australian Institute of International Affairs, Sydney 1990) 182.

expeditions, formalising existing shipboard practices.¹⁰⁸ These guidelines concerned visitors conduct and explained the US Antarctic Conservation Act 1978, which relates to protection of flora and fauna.¹⁰⁹ Then in 1991, six US ship tour operators plus Adventure Network International founded the International Association of Antarctic Tour Operators (IAATO). IAATO's guiding principle is that the long term interests of Antarctic tourism industry depend on environmental sensitivity, so it encourages safe and environmentally-responsible cruises. Tour operators have a vested interest in protecting Antarctica's pristine environment because this is their basic resource. Members pledge to abide by the Antarctic Conservation Act 1978¹¹⁰ or its equivalent in the Environmental Protocol 1991 and to adhere to the industry-generated Guidelines of Conduct of Antarctica Visitors and Tour Operators.

1. *Guidelines of Conduct for Antarctica Tour Operators*

Under the Guidelines of Conduct for Antarctica Tour Operators, members must enforce the Guidelines for Visitors in a consistent manner but adapt these to individual circumstances.¹¹¹ Members must operate only with qualified expedition staff and it is recommended that at least 75% have previous Antarctic experience.¹¹² Members should assign one qualified naturalist/lecturer to accompany and supervise a group of 20-25 (maximum) ashore, who should be educated on the Visitor Guidelines and other relevant legislation.¹¹³ The number of passengers ashore at any one place at any time must be limited to 100.¹¹⁴ Other passenger vessels should be informed of voyage itineraries to avoid over-visitation of any site.¹¹⁵ Litter must never be left ashore and MARPOL treaty guidelines on marine pollution must be followed.¹¹⁶

¹⁰⁸ Above n 54, 234.

¹⁰⁹ Above n 54, 234.

¹¹⁰ "Comparable legislation for non-US countries should be adhered to accordingly." IAATO Guidelines of Conduct for Antarctica Tour Operators (1).

¹¹¹ For example, fur seals with pups may be more aggressive than without pups, and therefore passengers need to stay farther away.

¹¹² Guideline 4, IAATO Guidelines of Conduct for Antarctica Tour Operators.

¹¹³ Guideline 7, IAATO Guidelines of Conduct for Antarctica Tour Operators.

¹¹⁴ Guideline 8, IAATO Guidelines of Conduct for Antarctica Tour Operators.

¹¹⁵ Guideline 11, IAATO Guidelines of Conduct for Antarctica Tour Operators.

¹¹⁶ Guideline 16, IAATO Guidelines of Conduct for Antarctica Tour Operators.

2. *Guidelines of Conduct for Antarctica Visitors*

The Guidelines of Conduct for Antarctica Visitors firstly detail the rule not to disturb, harass or interfere with wildlife.¹¹⁷ This involves not touching animals, maintaining distances from animals,¹¹⁸ keeping noise to a minimum and not feeding any animals. Visitors are not to walk on vegetation,¹¹⁹ leave any litter ashore and not take souvenirs¹²⁰. Historic huts may only be entered when accompanied by a properly authorised escort and nothing may be removed or disturbed once inside.¹²¹ Smoking is prohibited on shore excursions¹²² and visitors must stay with their groups and not wander off.¹²³

During the 1992-1993 season, nine of the twelve ships operating Antarctic cruises were operated by members of IAATO.¹²⁴ Therefore, only 72% of passengers were carried by IAATO members, which represents a significant decrease from the previous season when the figure was 85%.¹²⁵

IAATO invites all new tour operators to become members so that all operators conduct tourism in an equivalent and responsible manner. If IAATO was able to increase its membership then the organisation could become recognised as a quality standard, and tourists could be encouraged to purchase tours from IAATO members. As of July 1993, the membership fee is US\$500 and US\$5 for each passenger brought to Antarctica.¹²⁶ Enzenbacher suggests this fee structure may help to explain why some operators have not joined.¹²⁷

¹¹⁷ Guideline 1, IAATO Guidelines of Conduct for Antarctica Visitors.

¹¹⁸ 15 feet from penguins, all nesting birds and true seals, and 50 feet from fur seals.

¹¹⁹ Guideline 2, IAATO Guidelines of Conduct for Antarctica Visitors.

¹²⁰ Guideline 3, IAATO Guidelines of Conduct for Antarctica Visitors.

¹²¹ Guideline 5, IAATO Guidelines of Conduct for Antarctica Visitors.

¹²² Guideline 6, IAATO Guidelines of Conduct for Antarctica Visitors.

¹²³ Guideline 7, IAATO Guidelines of Conduct for Antarctica Visitors.

¹²⁴ However, five tour companies not members of IAATO brought 1,935 passengers on twelve cruises. Above n 52, 107.

¹²⁵ Above n 52, 107.

¹²⁶ Above n 52, 110.

¹²⁷ Above n 126.

The International Union for the Conservation of Nature has reported that so far tour operators are generally well-organised, activities are closely supervised and a great majority of tourists behaved with care and respect for wildlife and the environment. While this observation is not limited to IAATO members, IAATO does represent the majority of tour operators and high standards of performance are clearly related to these guidelines. It is significant that these self-imposed guidelines were initiated and widely adopted by tour operators before comparable regulation was introduced by the ATS. In terms of enforcement benefits are withheld when standards are not achieved. IAATO is determined to expel any company not strictly adhering to its codes.¹²⁸

D. Protocol on Environmental Protection to the Antarctic Treaty 1991

On 4 October 1991, 25 nations signed the Environmental Protocol, one of the most comprehensive multilateral document ever adopted on the international protection of the environment. Under Article 2, Antarctica is designated as a natural reserve, devoted to peace and science.

1. Background to the Protocol

On June 2, 1988, after six years of negotiation, the Consultative Parties unanimously adopted the Convention on the Regulation of Antarctic Mineral Resource Activities (CRAMRA).¹²⁹ France and Australia refused to ratify it and since all claimant states must ratify a convention before it can come into force.¹³⁰ Instead Australia and France proposed a new comprehensive environmental protection convention in 1989. The general view was that a mining convention was not consistent with the protection of the Antarctic environment, so support for this proposal grew.¹³¹ A new proposal was drafted in November 1990 at an ATCM

¹²⁸ Address by WN Plimmer "Sustainable Tourism: What is it and Some Routes for Getting There" (Australian Tourism Outlook Forum, 4 December 1992).

¹²⁹ Convention on the Regulation of Antarctic Mineral Resource Activities opened for signature Nov. 25 1988, 27 ILM 859, 868 (1988).

¹³⁰ Above n 10, 216.

¹³¹ "The time has come to put together an integrated series of measures to ensure there is a full network of regulations based on sound conservation principles." Geoffrey Palmer "White Paper on Antarctic Environment" (August 1989) 6. For further discussion of New Zealand's position,

which called for a prohibition on mining activities. By formulating this concept into a protocol, the Treaty parties formally reaffirmed the dominance of the Antarctic Treaty System for protecting the environment.¹³²

This concept of comprehensive environmental protection meant that a single instrument would regulate all human activities on the continent. This is in contrast to the past ATS approach where rules were developed to cope with particular environmental problems. This ad hoc, piecemeal approach left gaps and inconsistencies. Different standards were applied to activities with similar environmental consequences. Parties had previously tried to fill gaps by adopting measures to deal with specific human activities and because of this specificity, many forms of human activity were not covered, such as tourism.¹³³ As human activity in Antarctica diversified, the Consultative Parties became aware that continuation of an evolutionary, incremental approach would not produce the integration and co-ordination necessary to meet the threats posed to the Antarctic environment.¹³⁴ The notion of human impact has become the critical standard for determining the value of any activity in Antarctica.¹³⁵

2. *The Protocol - Introduction*

The Madrid Protocol was conceived as a framework agreement adaptable to the varying needs of environmental protection through a system of technical annexes, adopted at Consultative Meetings and deriving force from the norms of the Protocol.¹³⁶ This open structure allows for expansion and revision. There are five

see Right Hon. Geoffrey Palmer "New Zealand Paper on the Protection of the Antarctic Environment." (1989).

¹³² In substance, the Protocol could have been a convention, because it is really no different in what it achieves than 'free-standing' conventions within the ATS. SKN Blay "New Trends in the Protection of the Antarctic Environment: The 1991 Madrid Protocol" (1992) 86 AJIL 377, 385-386.

¹³³ Above n 132, 385-386.

¹³⁴ Gillian Triggs "A Comprehensive Environmental Regime for Antarctica: A New Way Forward" in RA Herr, HR Hall, MG Haward (eds) *Antarctica's Future: Continuity or Change?* (Australian Institute of International Affairs, Sydney 1990) 114.

¹³⁵ Above n 98, 103.

¹³⁶ Francesco Francioni "The Madrid Protocol" 28 (1993) Tex.ILJ 48, 57.

legally binding Annexes. Under Article 4, the Protocol is formally meant to supplement the Antarctic Treaty, without modifying or amending the Treaty. As a consequence of this, Article IV of the Treaty remains unchanged, so territorial claims have still not been resolved, and the positions of the respective nations are still frozen. The Protocol establishes a minimum 50 year ban on the exploitation of oil and mineral resources.¹³⁷ Article 3 sets out a number of principles, which collectively provide that activities shall be planned and conducted so as to limit adverse impacts on the Antarctic environment.

Does the Protocol apply to tourism?¹³⁸ Firstly, Article 3 talks about 'human activities' with no qualification of the sorts of activities it applies to. Article 8 requires assessment procedures in Annex I to be applied "...in the planning processes leading to decisions about any activities undertaken in the Antarctic Treaty area pursuant to scientific research programmes, *tourism* and all other governmental and non-governmental activities...for which advance notice is required under Article VII (5) of the Antarctic Treaty" (emphasis added).¹³⁹ Therefore, it seems clear that the Protocol was intended to cover tourism, which is consistent with the intended comprehensive nature of the Protocol. At the XVIth ATCM in 1991, the Consultative Parties declared that the Protocol and its annexes did apply to tourist activity.

3. *How Effective is the Protocol?*

It is difficult to know how extensively it will apply, since the Protocol has not yet come into force. This will occur when all Consultative Parties have ratified it, which seems likely. To date, six countries have ratified the Protocol and it will probably

¹³⁷ Article 7 prohibits mining and Article 25 requires a 3/4 majority of Consultative Parties to amend the 50 year ban. The force of this prohibition is weakened by Article 25 paragraph 5 (b), known as the walkout provision, because a party can withdraw from the Protocol if amendments to the mining ban are adopted and not ratified after 3 years. The Party must give 2 years notice of their withdrawal. This provision was added so that the United States would sign the Protocol.

¹³⁸ Alan Hemmings, Arani Cuthbert, Janet Dalziel "Non-Governmental Activities and the Protection of the Antarctic Environment - A Paper for the Government of New Zealand" (August 1991) 6-7.

¹³⁹ Article VII (5) of the Treaty requires Parties to give notice of all expeditions to and within Antarctica on the part of its ships or nationals and all expeditions organised in or proceeding from its territory.

take several years for other Parties to follow.¹⁴⁰ It has the advantage of being a 'popular' treaty in the eyes of the ordinary citizen and since present-day governments are politically conscious of their environmental reputation, it is arguable that the prospects for ratification are good.¹⁴¹ However, a similar degree of consensus accompanied 6 years of negotiation of CRAMRA, illustrating that the possibility of a State vetoing the instrument exists.

Article 13 requires Consultative Parties to "...take appropriate measures within its competence, including the adoption of laws and regulations, administrative actions and enforcement measures to ensure compliance with this Protocol.", giving the Parties a lot of discretion as to the extent to which it is implemented. The Protocol provides a framework for conserving the Antarctic environment but it is the implementing legislation that will determine how wide-ranging the practical effects will be. The Antarctic and Southern Ocean Coalition, a non-governmental organisation, (ASOC) suggests that the Protocol and Annexes should be viewed as minimum standards which should be augmented and strengthened.¹⁴² While the ratification process is proceeding, the Protocol will be respected as though it were in full force.¹⁴³

New Zealand's implementing legislation - the Antarctica (Environmental Protection) Bill 1993, is presently before the Foreign Affairs and Defence Select Committee. It applies to any person in the Ross Dependency, New Zealand citizens, any organiser of a New Zealand expedition, or one proceeding from New Zealand.¹⁴⁴ The Bill essentially implements the Protocol to the letter. For example, the purpose of Part I is to give effect to Article 8 and Annex I of the Protocol.¹⁴⁵

¹⁴⁰ These countries are Spain, France, Ecuador, Norway, Peru and Argentina. Jennifer Angelini & Andrew Mansfield "A Call For US Ratification of the Protocol on Antarctic Environmental Protection" (1994) 21 Ecol.LQ 163, 166.

¹⁴¹ Above n 19,469.

¹⁴² "Implementation of the Protocol" (submitted by ASOC to the XVIIth ATCM) 1.

¹⁴³ Neil Plimmer "Antarctic Tourism: Issues and Outlook Paper No. 10" (PATA Occasional Paper Series 1994) 2.

¹⁴⁴ Article 2 (1) (a) - (d). It does not apply to any of these people if they are involved in another government's expedition - Article 2 (1) (e). A person must notify the Minister of Foreign Affairs and Trade at least 20 working days before an expedition leaves. See Article 7.

¹⁴⁵ Article 9, Antarctica (Environmental Protection) Bill 1993.

The Bill also creates offences with severe penalties, enabling the Annexes to be effectively enforced.¹⁴⁶

(a) *Environmental Impact Assessment*

The Protocol requires that no activity should proceed unless there is sufficient information available in order to evaluate their impact on the environment and decide whether this is acceptable.¹⁴⁷ The concept of environmental impact assessment was developed in the early 1970's and applied to Antarctica by some expeditions on a national basis, so it has simply been extended to all activities. The risk of an activity on the environment has to be assessed on a case by case basis, according to the special circumstances, when undertaken in a particularly fragile ecosystem.¹⁴⁸

Article 8 requires the procedures set out in Annex I to be followed before any decisions about activities in the Antarctic are to be made. These procedures also apply to any sort of change to any activity. "The I[nitial] E[nvironmental] E[valuation] is to be prepared in sufficient detail to indicate whether the proposed activity will have more than such a minor or transitory impact."¹⁴⁹

If an activity is not likely to have more than a minor or transitory impact, it may proceed as long as appropriate procedures are put in place to assess and verify the impact of the activity.¹⁵⁰ A Comprehensive Environmental Evaluation (CEE) is to be prepared when it is likely that an activity will have more than a minor or transitory impact and Article 3 of Annex I lists everything that must be included in a CEE. These include an examination of the likely direct impacts of the activity,

¹⁴⁶ For example s. 14 (2) A person is liable for imprisonment not exceeding one year or a fine of maximum \$100,000 for offences relating to Environmental Impact Assessment.

¹⁴⁷ "Antarctica and New Zealand" - Unpublished Draft (MERT April 1993) 19. See also above n 136, 59.

¹⁴⁸ Laura Pineschi "The Antarctic Treaty System and General Rules of International Environmental Law" in Francesco Francioni, Tullio Scovazzi *International Law for Antarctica* (Giuffrè Publishing, Milan 1987) 206.

¹⁴⁹ "Antarctic Tourism and the Environmental Protocol" (submitted by the United States to the XVIIth ATCM, 9 November 1992) 3.

¹⁵⁰ Article 2 para 2, Annex 1.

consideration of possible indirect impacts and cumulative impacts. The Evaluation must also identify measures that could be taken to minimise impacts, detect unforeseen impacts, and identify unavoidable impacts and gaps in knowledge.¹⁵¹

Some problems have been identified with the environmental impact assessment procedures. Firstly, deciding whether an activity will have less than a minor or transitory impact presupposes the existence of standards or procedures for making that determination, but neither the Annex or Protocol give any indication as to what these should be.¹⁵² There is also no indication of what may be classified as "minor or transitory". Without any guidance, varying interpretations will lead to inconsistency in the Protocol's protection of the environment.

In response to this criticism, Antarctic and Southern Ocean Coalition (ASOC) submits that often in environmental matters, it is not possible to provide detailed answers in advance of judging a particular case because there are usually many variables to consider. For example, an activity may have a negligible impact in one season or place but may cause much damage in another season or place.¹⁵³ Antarctica's immense size and its different environmental inter-relations also make it difficult to predetermine a standard.¹⁵⁴ ASOC suggests that the precautionary principle¹⁵⁵ should be applied and if a government was in any doubt, approval should not be given.¹⁵⁶

In terms of which activities would require both an IEE and a CEE, it may be possible to list what will always require a CEE, like road construction, but it will never be possible to stipulate activities that will never require these assessments,

¹⁵¹ See Article 3 para 2, Annex I.

¹⁵² Above n 132, 392.

¹⁵³ Above n 142, 2.

¹⁵⁴ Above n 148, 211.

¹⁵⁵ The 1990 Bergen Ministerial Declaration on Sustainable Development definition: "Environmental measures must anticipate, prevent and attack the causes of environmental degradation. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation." in Patricia W. Birnie & Alan E. Boyle *International Law and the Environment* (Clarendon Press, Oxford 1992) 256.

¹⁵⁶ Above n 142, 2.

because there are so many variables.¹⁵⁷ Whether an activity is likely to have a minor or transitory impact will, amongst other things, depend on the size of the operation and the facilities involved.¹⁵⁸ While present Antarctic cruises would probably not require a CEE, this might change if the number of passengers increased substantially, or overnight stays were involved.

Environmental impacts are to be considered in accordance with appropriate national procedures.¹⁵⁹ These procedures will undoubtedly vary among states and it will be difficult to identify a uniform standard for assessing "less than minor or transitory impact". This absence of uniformity may mean that similar situations are not considered equally harmful, undermining the effectiveness of the Protocol.¹⁶⁰ There is no mechanism for verification at a higher level. If they were integrated in some way then cumulative impacts could be predicted. The Committee on Environmental Protection, created by the Protocol, would be ideal to co-ordinate EIAs, but it is unlikely that this will happen, as will be discussed.

Once a draft CEE is prepared, it is to be circulated to all Parties, made publicly available, and discussed at an ATCM. It is not clear how much power the Consultative Parties have, as to whether they may veto an activity on consideration of the CEE. Article 3 paragraph 5 states that "...no decision to proceed with a proposed activity shall be delayed...for longer than 15 months from the date of circulation of the draft [CEE]." This could imply that the Consultative Parties may decide a proposed activity should not proceed.

However, "Any decision on whether a proposed activity...should proceed..."¹⁶¹ can be read to mean a decision made by the state proposing the activity. This provision deals with the decision process before the Consultative Parties become involved, so it follows that a "final decision" in Article 3 paragraph 5 refers to a decision made by the state proposing the activity, so that the Consultative Parties cannot make the

¹⁵⁷ Above n 142, 2.

¹⁵⁸ Interview with Paul Dingwall, Department of Conservation.

¹⁵⁹ Article 1 para 1, Annex I.

¹⁶⁰ Above n 132, 392.

¹⁶¹ Article 4, Annex I.

final decision.¹⁶² These provisions should be amended so that the Consultative Parties have more decision-making power in this crucial area. This would prevent a nation allowing activities that the other Parties would not agree to.

In response to this weakness, Madsen suggests that even if in a strictly legal sense the Consultative Parties cannot prevent the implementation of a proposal that they find unacceptable, there would be political ramifications facing a party who proceeded in the face of a negative decision, and this might serve as an effective deterrent.¹⁶³ However, history suggests that political ramifications are generally not an effective deterrent. When France violated Article 6 of the Agreed Measures for the Conservation of Antarctic Fauna and Flora, Australia and New Zealand made private overtures to France, but the other 15 Consultative Parties voiced no official public opposition.¹⁶⁴ These enforcement inadequacies will be discussed in the Enforcement section.

If an activity, when carried out, threatens to cause unacceptable impacts on the environment, it may be cancelled, modified, or suspended.¹⁶⁵ Again, there is no guidance as to what would constitute an operation which threatened to create an unacceptable impact on the Antarctic environment.¹⁶⁶

(b) *Other Annexes*

Annex II constitutes a restatement of the Agreed Measures on Conservation of Flora and Fauna, and will in time supersede them.¹⁶⁷ It prohibits the taking of or harmful interference with native mammals, birds, plants, and invertebrates except with a permit from the appropriate authority of the Party.¹⁶⁸ The definition of 'harmful interference' is very relevant to tourism. It includes flying or landing

¹⁶² Above n 160.

¹⁶³ Above n 19, 467.

¹⁶⁴ Christopher C Joyner "Protection of the Antarctic Environment: Rethinking the Problems and Prospects" (1986) 19 Cor.ILJ 259, 270.

¹⁶⁵ Article 3 para 4 (b), Annex I.

¹⁶⁶ Bruce Manheim Jr. "Gaps in Management of Antarctic Seaborne Tourism Under the Protocol" (Environmental Defense Fund, submitted to XVIIth ATCM 1992) 4.

¹⁶⁷ J. Heap *Handbook of the Antarctic Treaty* (8th edition, April 1994) 2040.

¹⁶⁸ Article 3 para 1, Annex II.

helicopters or other aircraft in a manner that disturbs concentrations of birds and seals, using vehicles or vessels in similar manner, wilfully disturbing breeding or moulting birds or seals, significantly damaging concentrations of native plants and any activity that results in significant adverse modification of habitats.¹⁶⁹ The introduction of non-native species, parasites and diseases is also prohibited.¹⁷⁰

Annex III concerns waste disposal and waste management, and Article 1 paragraph 4 requires wastes to be removed to the country that organised the activities as far as this is possible. This Annex specifically applies to tourism.¹⁷¹ Article 1 deals with general obligations, Articles 2-7 concern waste disposal and removal from the Treaty area, and Articles 8-10 deal with waste management planning. Waste is classified into five groups.¹⁷² Under Article 9, each party is to include a waste management plan in the annual exchange of information under the Antarctic Treaty.

This Annex has been criticised by environmentalists for its ubiquitous use of qualifiers, such as "to the maximum extent possible"¹⁷³ and "as far as practicable" and its failure to ban incinerations as an acceptable form of waste disposal.¹⁷⁴ It also does not designate any central authority or structure to supervise or ensure observance of proper waste management practices.

Annex IV deals with prevention of marine pollution and applies to ships entitled to fly the flag or any other ship engaged in supporting the operations of Parties in the Antarctic Treaty Area.¹⁷⁵ This has been construed by some to apply solely to ships that support operations of a government and not vessels that support non-

¹⁶⁹ Article 1 (h) Annex II.

¹⁷⁰ Article 4, Annex II.

¹⁷¹ Article 1 (1) Annex III.

¹⁷² Group 1 - sewage and domestic liquid wastes

Group 2 - other liquid wastes and chemicals, including fuels and lubricants

Group 3 - solids to be combusted

Group 4 - other solid wastes

Group 5 - radioactive material

See Article 8, para 1 Annex III.

¹⁷³ "...sewage and domestic liquid wastes, shall, to the maximum extent practicable, be removed from the Antarctic Treaty area by the generator of such wastes." Article 2 para 2, Annex III.

¹⁷⁴ Above n 19, 467.

¹⁷⁵ Article 2, Annex IV.

governmental operations, such as tourist expeditions.¹⁷⁶ Since a number of vessels are registered in non-Treaty states, they may not be subject to the provisions of Annex IV.

There is also a sovereign immunity provision excluding ships owned or operated by a State and used, for the time being, only on government non-commercial service.¹⁷⁷ ASOC argues that it is necessary for sovereign immunity to be waived, because otherwise non-governmental operations are bound by what governmental operations refuse to be bound by.¹⁷⁸ The majority of vessels used for tourist expeditions are either government owned or operated, so it is not entirely clear whether they would fall within the exception and avoid the provisions of Annex IV. In order for the Protocol to apply comprehensively to all human activity, it is essential that Annex IV should apply to all ships, regardless of their ownership or business, so the exceptions should be eliminated.

Annex V provides for the designation of two categories of protected area: Antarctic Specially Protected Areas (ASPAs) and Antarctic Specially Managed Areas (ASMAs). This system replaces the old system of Specially Protected Areas and Sites of Scientific Interest.¹⁷⁹ Activities are prohibited, restricted, or managed pursuant to duly adopted management plans.¹⁸⁰ This Annex would prohibit tourists from entering ASPAs unless visits were specifically provided for in the plan for the Area.¹⁸¹ Management plans are required for ASMAs, though entry into such areas does not require a permit. The difference between the two categories is that ASPAs are designed to protect values, such as environmental, scientific, historic, aesthetic or wilderness values, while ASMAs protect activities.¹⁸²

¹⁷⁶ Above n 19, 11.

¹⁷⁷ Article 11, Annex IV.

¹⁷⁸ Above n 142, 3.

¹⁷⁹ Article 3 para 3, Annex V.

¹⁸⁰ Article 2, Annex V.

¹⁸¹ Article 3, para 4, Annex V. "Entry into an Antarctic Specially Protected Area shall be prohibited except in accordance with a permit issued under Article 7."

Article 7 para 1 "Each Party shall appoint an appropriate authority to issue permits to enter and engage in activities within an ASPA in accordance with the requirements of the Management Plan relating to that Area."

¹⁸² Extract from XVth ATCM, above n 167, 2082.

(c) *Enforcement*

The Protocol does not set up effective enforcement mechanisms for dealing with violations. Enforcement is left entirely to the Parties, by taking measures "within its competence" and enacting appropriate laws. Any regulatory system is only as effective as the promulgating authority's ability and willingness to enforce it. This failure to depart from the well-trodden path of compliance by national supervision and enforcement is seen as an overall deficiency of the new regime.¹⁸³

This problem is not unique to the Protocol, and can be traced back to the Antarctic Treaty System itself. "The most serious critique of the Antarctic Treaty System is its apparent inability to effectively enforce international adherence to its provisions."¹⁸⁴ This inability was illustrated by the French Point Geologie Project in 1983, when France built an airstrip to facilitate access to the station of Dumont d'Urville, clearly violating Article VI of the Agreed Measures which states that parties "shall prohibit the killing, wounding, capturing or molesting of any native mammal." There was very little reaction from the other Consultative Parties, as they have been extremely reluctant to criticise the actions of other parties. This example shows that the 'laissez faire' attitudes of the Consultative Parties toward legally binding provisions provide little protection for the Antarctic environment¹⁸⁵ and clearly illustrates the substantial gap between ATS theory and practice of environmental commitment.¹⁸⁶

The Consultative Parties reject the idea of a central review mechanism or regulatory authority to monitor compliance, even just within the environmental framework, because they are opposed to any super-national body within the ATS, which would

¹⁸³ Maxwell Bruce "Epilogue" in Joe Verhoeven, Philippe Sands, Maxwell Bruce (eds) *The Antarctic Environment and International Law* (Graham & Trotman, London 1992) p 185.

¹⁸⁴ Above n 6, 624.

¹⁸⁵ Above n 6, 632.

¹⁸⁶ John E. Hay, Stephen J. de Mora, Alan D. Hemmings, Simon M. Towle & Tania F. Dewitt "A Study of Environmental Policy for Antarctica (occasional publication Environmental Science, University of Auckland, 1989) 75.

have any decision-making power. It is argued that the lack of institutional provisions provides the flexibility which has made the ATS so successful.¹⁸⁷

Under Article 13 paragraph 5 ATCMs "...shall draw the attention of any State which is not a Party to this Protocol to any activity undertaken by that State...which affects the implementation of the objectives and principles of this Protocol." This provision would probably result in the Parties exerting political pressure on such non-parties. It should not be interpreted as making the Protocol binding on non-Party states, since there is little indication that the Protocol was intended to apply to third parties.¹⁸⁸

Inspection is crucial to ensure compliance with any rules, but Antarctica's hostile environment, remoteness, communication inadequacies and legal uncertainties mean it is easier to issue regulations than to ensure enforcement.¹⁸⁹ Article 14 provides that Parties shall arrange,¹⁹⁰ individually or collectively, for inspections by observers to be made in accordance with Article VII of the Antarctic Treaty.¹⁹¹

Inspection under the Antarctic Treaty has not been used much in the past, but has increased over the last few years. Notice is required to be given to the Party to be inspected, and no inspection reports have ever indicated any violations.¹⁹² An individual government inspection might report violations of private operations, such as tourism, but would not do so if another government was responsible because it would give offense and cause a diplomatic incident. It is also important to note that

¹⁸⁷ Elaine F. Foreman "Protecting the Antarctic Environment: Will A Protocol be Enough?" (1992) 7 *Am.U.J. of Int'l L&P* 843, 858.

¹⁸⁸ Article 6 sets out the obligations of Parties with regard to the protection of the environment, but does not mention the role of non-parties. The Protocol also does not deal with EIA of non-parties activities. Above n 187, 877. See the discussion on the application of the Antarctic Treaty to non-parties.

¹⁸⁹ Above n 97, 379.

¹⁹⁰ The Protocol therefore imposes a positive duty on ATCP's to arrange inspections, while the Antarctic Treaty only established a right of inspection under Article VII (3). See above n 140, 198.

¹⁹¹ It has been pointed out that collective inspections may allow more countries to conduct inspections by reducing the costs to any one country. Above n 140, 199.

¹⁹² James N Barnes "Protection of the Environment in Antarctic: Are Present Regimes Enough?" in Arnfinn Jorgensen-Dahl & Willy Ostreng (eds) *The Antarctic Treaty System in World Politics* (MacMillan Academic and Professionals Ltd. London, 1991) 217.

inspection under the Antarctic Treaty to date has not been concerned with checking protected areas,¹⁹³ or with the sometimes controversial issue of environmental protection.¹⁹⁴

An independent professional body created to perform inspections would move the focus from international politics, to environmental protection. The body would be appropriately trained to carry out this function, and follow a methodology in a consistent manner. The Consultative Parties have rejected any suggestion of such a body. The only step towards consistency is a checklist for inspection which will be followed as a result of the recent XVIIIth ATCM. However, the observers are still generally not experts in this field.

Manheim identifies another potential problem with the inspection provisions in the Protocol.¹⁹⁵ Observers are guaranteed access to "all areas of Antarctica" so they can inspect areas visited by tourists. However, observers are only permitted to inspect "ships and aircraft open to inspection under Article VII (3) of the Antarctic Treaty." That Article limits inspections of ships to 'points of discharging or embarking cargoes or personnel in Antarctica'. It is not clear whether observers could inspect vessels underway. This should be clarified so that there are no loopholes for where and when inspection can take place.

(d) Jurisdiction

The other main issue that the Protocol does not deal with is jurisdiction. Jurisdiction, according to public international law, is the right to control persons and things within a State's territory, the right of a State to exercise control over its own nationals wherever they are, and the right of a State to assert control over

¹⁹³ Above n 140, 185.

¹⁹⁴ Above n 132, 390. Angelini & Mansfield also note that the Protocol does not fully remedy procedural shortcomings of inspection provisions such as prompt reporting and circulation of inspection findings. See above n 193.

¹⁹⁵ Above n 166, 6.

offenses against its nationals.¹⁹⁶ Antarctic Treaty Parties have generally been able to ignore jurisdictional questions since the bulk of human activity has been undertaken by official national expeditions, subject to flag-state jurisdiction and domestic legislation.¹⁹⁷

The multi-national characteristics of tourism make things more complicated. For example, the *Columbus Caravelle* is a Bahamian registered vessel owned by a German company called Transocean Cruise Lines. Berths on the Antarctic trips are marketed in Europe and USA and tourists often fly to Punta Arenas, Chile to board. Under Article VII (5) of the Antarctic Treaty, Parties must provide advance notice of all expeditions to and within Antarctica, but which governments should the tour operator request permission from? Which nation(s) are responsible for evaluating the environmental impact assessment?¹⁹⁸

This example demonstrates the overlaps and gaps in jurisdiction that arise in the area of tourism and the need for rules in this area. The problems relating to jurisdiction first became evident during disputes over which authorities should grant permits required for the taking/killing of wildlife and the entrance to Specially Protected Areas, under the Agreed Measures. "The absence of agreed jurisdictional rules can prevent the environmental regime from being applied comprehensively beyond the uncontroversial areas of state jurisdiction over nationals and those on vessels flying its flag."¹⁹⁹

This is further complicated by the fact that the seven claimant states believe they exercise sovereignty over their territory. Recognising their claims would be one way of solving the jurisdiction problem, but in practice, it is unlikely that they would

¹⁹⁶ Beverly May Carl "The Need for a Private International Law Regime in Antarctica" in Christopher C. Joyner & Sudhir K. Chopra (eds) *The Antarctic Legal Regime* (Dordrecht, Boston, 1988) 69.

¹⁹⁷ Above n 85, 200.

¹⁹⁸ Section 13 of New Zealand's Antarctica (Environmental Protection) Bill 1993 exempts a person from the Environmental Impact Assessment requirements if another Contracting Party has applied EIA procedures set out in Annex I of the Protocol. However, this still does not resolve how the parties should decide who is initially responsible for evaluating the EIA. Section 13 simply provides for the situation where another party is carrying out the procedures.

¹⁹⁹ Above n 84, 473.

be able to secure international acceptance of their territorial jurisdiction even over tourism alone.²⁰⁰ Some nations are able to extend their domestic legal jurisdiction to cover acts carried out in Antarctica while others may not be able or willing to do this.²⁰¹

An Australian paper suggested one way of resolving jurisdiction problems.²⁰² For the purposes of assuming oversight of expeditions (approval of EIA, follow up action and reporting), the primary responsibility should be assumed by the Treaty Party in whose territory the expedition is organised.²⁰³ Responsibility for oversight may also be assumed by another party following consultation and agreement. The paper listed possible other parties in order of priority. Firstly, the party from whose territory the expedition will proceed from to Antarctica, the Party under whose flag the vessel/craft transporting the expedition will travel, the Party whose nationals are included as visitors, and the Party whose station/base the expedition proposes to visit.

It is submitted that it is unnecessarily complicated to have this list but rather, it would be sufficient for the party from whose territory the expedition will proceed from, to Antarctica, to be the secondary party with oversight responsibilities. These countries are known as 'gateway' states and will be discussed in more detail. A tour organiser would still need to get permission to visit stations from the State concerned.

(e) Committee for Environmental Protection

Article 11 of the Protocol establishes the Committee for Environmental Protection and its functions are to provide advice and formulate recommendations to the

²⁰⁰ Above n 97, 382.

²⁰¹ The United States regards extraterritorial application of environmental legislation. For example the United States Antarctic Conservation Act 1978 applies to all US citizens. Extraterritoriality is defined as "...the operation of laws upon persons, rights, or jural relations existing beyond the limites of the enacting state or nation, but still amenable to its laws." Above n 187, 875.

²⁰² "Provisions Concerning Conduct of Tourism and Non-Governmental Activity in Antarctic Treaty Area" (submitted by Australia, XVIIth ATCM 1992) 2.

²⁰³ Above n 202.

Parties in connection with the implementation of the Protocol. The Committee was not intended to be an independent body with executive functions to oversee compliance with the Protocol, but rather to provide an overview.²⁰⁴ This is still important due to the nature of environmental problems. For example, it is extremely difficult for a tour operator to predict cumulative effects when he or she does not know who else is visiting that site, or how their operation is being conducted. In addition, even researchers still do not understand the impacts of various activities.

The Committee has been established in an interim form by the Consultative Parties at the XVIIIth ATCM, and is called the Transitional Environmental Working Group. It is hard to know how effective it will be at this early stage, but it does enable information to be channelled among the various states and provides a forum for discussing environmental problems which is less political than the ATS itself.²⁰⁵ It would be useful if the Committee was able to provide some guidelines as to how to implement and apply the Protocol.²⁰⁶

The Protocol would be vastly improved if Comprehensive Environmental Evaluations were assessed and decided upon by this Committee, because it would enable greater impartiality and objectivity.²⁰⁷ The Committee would be able to evaluate the cumulative effects of combined visits to the same sites, instead of the present system where tour operations are considered individually within each country. However, it is extremely unlikely that the Consultative Parties would allow another body, such as the CEP, to have any decision-making power because it is a threat to their sovereignty.

²⁰⁴ Some writers proposed that there be an Antarctic Environmental Protection Agency which would be responsible for preservation of the environment for the entire international community. Its functions would include evaluating EIAs, inspections and monitoring. Barnes suggests that this can hardly be a radical idea given the size and importance of the region. Above n 192, 245.

²⁰⁵ Interview with Alan Hemmings, Greenpeace.

²⁰⁶ For example, the meaning of 'minor or transitory' in relation to EIA procedures.

²⁰⁷ It has been suggested that allowing national authorities to control procedural guarantees of impact assessment carries the risk that they will use these procedures in an instrumental and 'cosmetic' way. Above n 136, 65.

E. Recommendation XVIII-1: Guidance for Visitors and Tour Operators

1. The Tourism Annex Proposal

Tourism has never been approached systematically by the Treaty Parties. This is mainly because during the 1980's, when tourism started expanding, the Parties were concerned with putting a mineral resource regime in place, and tourism was not a priority until this was resolved.

However, at the XVth ATCM proposals were tabled for a further annex to the Protocol that would deal specifically with tourism. Recommendation XVI-13 called for these proposals to be considered at an informal meeting. Chile, Germany, Italy, France, and Spain favoured an additional annex, while New Zealand and United States believed that tourist activities were adequately regulated by existing instruments.²⁰⁸ These two countries thought the problem was one of implementation of the Protocol, which they encouraged Treaty Parties to concentrate on in order to accelerate the entry into force of the Protocol.²⁰⁹ The United States suggested that consideration of the need for additional action with respect to tourist activity should proceed from a clear understanding of how the provisions of the new Protocol relate to tourism.²¹⁰

The main argument against creating a new annex is that the Protocol was intended to provide a comprehensive series of principles and apply to all human activity in Antarctica, so there is no need for additional regulation to apply solely to tourism.²¹¹ It is questionable whether it is appropriate to include required rules for the management of any one activity. PATA and IAATO argue that rules and regulations applying to tourism should be the same as those applying to other

²⁰⁸ Above n 97, 376.

²⁰⁹ While six nations have ratified the Protocol, it is understood that there is still no implementing legislation.

²¹⁰ "Antarctic Tourism and Environmental Protection" (submitted by United States, XVIIth ATCM) 1.

²¹¹ Above n 77, 2 and 8.

human activities, so that they are not discriminatory.²¹² The purpose of the Protocol is to improve the protection of the Antarctic environment without prejudice from where the threat is coming from.²¹³

The Treaty Parties agree that what is needed is a system that in its aggregate will ensure that all present activities in Antarctica and whatever they may be in the future do not have an adverse impact on the environment.²¹⁴ The Protocol was designed to be flexible and not turn into the incremental regime it was supposed to correct. For then, if a new industry developed in Antarctica in 5-10 years time, it would not be covered, and another specific annex would need to be created to regulate it.²¹⁵

The other reason why a tourism annex would not be the best solution is that there is a blur between governmental and non-governmental activities. Some tourist activities are organised and supported as an integral part of government operations.²¹⁶ This would make drafting difficult because an annex would need a precise definition of the activities it is intended to regulate, and anomalies between governmental and tourism activities would undoubtedly appear, especially since a number of problems and impacts are not exclusively related to tourism. Therefore, it is not easy to regulate tourism through discriminatory treatment.

France submitted a draft annex to the XVIIIth ATCM in April 1994, but it duplicated a lot of requirements found in the Protocol and touched on jurisdiction issues before they have been resolved by the parties.²¹⁷ For example, Article VI paragraph 1 of the Agreed Measures on Tourism in Antarctica states that "The monitoring of visited areas, of aircraft and ships shall be carried out according to

²¹² Joint PATA/IAATO statement to XVIIth ATCM (Venice, November 1992).

²¹³ Interview with Alan Hemmings, Greenpeace.

²¹⁴ R Tucker Scully "The Antarctic Treaty as a System" in RA Herr, HR Hall, MG Haward (eds) *Antarctica's Future: Continuity or Change?* (Australian Institute of International Affairs) 100.

²¹⁵ Interview with Alan Hemmings, Greenpeace.

²¹⁶ "The Regulation of Tourism and Non-Governmental Activity in the Antarctic Treaty Area" (Working Paper submitted by United Kingdom, 9 November 1992, Venice) 3.

²¹⁷ Interview with Stuart Prior, MFAT.

the terms and conditions determined by the ATCM's upon notice of the Committee on Environmental Protection and in compliance with [A]rticle 4 of the Protocol."

2. *Guidance for Visitors and Tour Operators*

Recommendation XVI-13 called for an informal meeting of the Parties on 9 November 1992 to make proposals to the XVIIth ATCM on questions of comprehensive regulation of tourist and non-governmental activities. No agreement was reached, but the XVIIIth ATCM in Kyoto, 11-22 April 1994 was more successful.

At that meeting there was still a wide convergence of views on whether it was timely for action to be taken on this matter, but there was agreement that the Parties not create new rules but simply provide guidance to those visiting the continent and those organising and conducting these visits.²¹⁸ The Parties agreed on a text for guidance for visitors and operators which only applies to tourist or non-governmental expeditions. These were encompassed in Recommendation XVIII-1. What was not resolved was the question of which country an organiser should apply to and whose laws should apply, essentially because these jurisdiction questions impact on their sovereignty.

The guidance for visitors and tour operators essentially put the issue of a separate annex at rest. It contains a number of provisions found in France's draft. This additional regulation kept the supporters of a separate annex happy. The guidelines were seen as a 'face-saving' exercise but probably will not contribute materially to improved environmental performance. Hemmings points out that those countries who take environmental protection seriously have already developed measures and that the guidelines will not increase their domestic regulation any further.²¹⁹ It should also be remembered that they form part of a recommendation and are not strictly binding.

²¹⁸ Item 7 (59) Extract from Draft Final Report of XVIIIth ATCM (Kyoto, Japan 11-22 April 1994).

²¹⁹ Alan Hemmings interview.

The guidance for visitors does not contain some of the rules found in the IAATO Visitor Guidelines. For example, IAATO sets out permitted distances from wildlife,²²⁰ while the ATS guidance requires visitors to maintain a safe distance, although 'safe' is used in terms of the safety of the people, not the animals.²²¹ The IAATO guidelines, on the whole, contain a more fuller description of animal behaviour and how visitors should respond. For instance, under IAATO Guideline 1 states that a person should 'give way' to an animal. However, the ATS guidance does prohibit graffiti, pollution of lakes and streams, and vandalism of huts and buildings,²²² while IAATO does not mention these. While both prohibit littering, IAATO requires visitors to remove any litter they may find.²²³ On the whole, the two sets of guidelines are pretty similar, but it seems that IAATO goes into a little more detail to explain why rules are in place.

The ATS Tour Operator guidance is mainly made up of three parts: procedures to be followed when planning to go the Antarctic,²²⁴ procedures while in the Treaty Area and procedures on completion of activities. It is in the second section that comparisons can be made between IAATO and ATS. Again, IAATO's guidelines are more detailed and rules are more stringent. For example, the ATS requires a sufficient number of guides with adequate experience,²²⁵ while IAATO states this and also recommends that at least 75% of staff have previous experience.²²⁶ ATS requires appropriate procedures, with regard to operating all transportation vehicles, to be followed,²²⁷ while IAATO specifically mentions how zodiac drivers should drive.²²⁸ In addition, IAATO requires operators to communicate their

²²⁰ Guideline 1, IAATO Guidelines of Conduct for Antarctic Visitors.

²²¹ Guidance for Visitors to the Antarctic D. 2.

²²² Guidance for Visitors to the Antarctic E. 2-3.

²²³ Guideline 3, IAATO Guidelines of Conduct for Antarctic Visitors

²²⁴ The first section concerns a number of requirements from the Protocol, which are explained in more detail for tour operators.

²²⁵ Guidance for those Organising and Conducting Tourism and Non-governmental Activities in the Antarctic - Procedures to be Followed by Organisers and Operators B. 3.

²²⁶ Guideline 4, IAATO Guidelines of Conduct for Antarctic Tour Operators.

²²⁷ Guidance for those Organising and Conducting Tourism and Non-governmental Activities in the Antarctic - Procedures to be Followed by Organisers and Operators B. 5.

²²⁸ Guideline 5, IAATO Guidelines of Conduct for Antarctic Tour Operators.

itineraries to other vessels, defines a staff to passenger ratio while ashore and limits the total number of people onshore at one time in one place.²²⁹

It is considered that the IAATO guidelines of conduct are better than the new ATS guidance, as they are more detailed, include rules not found in the ATS and generally contain stricter standards. Consequently, it is recommended that the ATS guidance be changed to more closely follow IAATO's measures.

VI. THE NEED FOR FURTHER REGULATION?

It is submitted that it is premature to introduce further regulation concerning Antarctic tourism because the Protocol has not yet entered into force, and its implications are still being fully understood. If it turns out that further regulation is necessary, an additional annex can be introduced. It is still important to note that already there are some problems evident with certain provisions of the Protocol, which should possibly be amended.

One of the main concerns regarding further regulation is that non-governmental operations will then be regulated more heavily than governmental operations. Government operations should be regulated in a similar way, and the Protocol, on the whole, enables this. However, Antarctic tourism is different in the sense that it involves repeated, localised visits to sites, and its popularity is growing every year, so it may require a more specific response. Most of the following suggested measures for improved regulation apply existing provisions from the Protocol, so regulation is not discriminatory.

²²⁹ Guideline 11, 7, 8 IAATO Guidelines of Conduct for Antarctic Tour Operators.

A. *Research and Information*

The difficulty in regulating Antarctic tourism is that its effects are not yet fully understood. Without any comprehensive tourism impact assessments undertaken, it is hard for policy makers to identify specific problems which require further attention.²³⁰ Environmental baselines against which to measure the extent and direction of change and a system to collect and manage data are required, so that the effects of human activity on the Antarctic environment can be understood.²³¹

Project Antarctic Conservation (PAC) is a six year programme²³² of studies into effects and impacts of tourism, which began in 1991-1992 with shipborne studies of how tourists are managed afloat and ashore, ecological and archaeological surveys of Half Moon Island and monitoring tourist activities.²³³ Preliminary work revealed that tour operators used different methods in landing and handling passengers ashore. Some landed 100 people at a time, while others landed in much smaller groups and some kept passengers in small groups of 10-15 with guides and others were given greater freedom.²³⁴ Tour parties on the whole seem to be well-disciplined and organised and their impacts on the environment were slight. PAC's fieldwork involved observation of 2,500 of the total 6,000 tourists landed during the 1991-1992 season. This sort of information will help in determining the most difficult type of impact on the Antarctic environment - the cumulative impact. Predicting cumulative impacts requires central co-ordination by the tour operators and Treaty Parties.²³⁵

The basis for a sound management policy also depends upon accurate and reliable statistics and at present there is no central source charged with recording total numbers of visitors to Antarctica, even though Treaty parties are supposed to

²³⁰ Above n 48, 22.

²³¹ Above n 52, 108.

²³² Five years is believed to be adequate time to differentiate effects of tourist activity from environmental variability.

²³³ Bernard Stonehouse "Shipborne Tourism in Antarctica: Project Antarctic Conservation Studies 1992/93" (1994) 29 (169) *Polar Record* 330.

²³⁴ Above n 233, 331.

²³⁵ "The Regulation of Tourism and Non-Governmental Activities in Antarctic Treaty Area (II) (submitted by United Kingdom to the XVIIIth ATCM) 21.

report numbers of tourists carried by expeditions organised in their country, through the exchange of information provisions in the Treaty.²³⁶ This information is often not supplied or done so inconsistently.²³⁷ National collections of data also vary in completeness and quality.

However, improvements are underway. In June 1993, the Council of Managers of National Antarctic Programs (COMNAP) commissioned the International Centre for Antarctic Information and Research (ICAIR) in Christchurch, New Zealand to develop an international Antarctic tourism database.²³⁸ However, COMNAP recently disbanded its tourism 'group' and ICAIR has approached the US, UK and New Zealand governments to get support to drive the database.²³⁹ Both the UK and New Zealand governments are interested and a reply from the US is still to come. The project will get underway, with information collected from the upcoming season, 1994-1995.

There is also a lack of appropriate information flowing from Treaty Parties to tour operators. Communication needs to improve in order to increase environmental awareness, especially among tour operators who are not members of IAATO.

Tour operators themselves are under an obligation to continuously monitor the impacts of any activity following the completion of a Comprehensive Environmental Evaluation.²⁴⁰ This enables them to verify any effects of their activities and to detect any unforeseen effects on the environment. These observations will be useful in collecting information on the impacts of tourism on the Antarctic environment.

²³⁶ The latest numbers were compiled by Debra Enzenbacher from figures reported to the US National Science Foundation Office of Polar Programs and the Antarctic Unit of the Tourism Board of Tierra del Fuego, Argentina.

²³⁷ Above n 97, 379.

²³⁸ Above n 52, 108.

²³⁹ Phone interview with Colin Harris, ICAIR.

²⁴⁰ Article 5, Annex I.

B. Limiting Visitor Numbers

There has been some argument that the total number of tourists visiting Antarctica each season should be limited in some way. Numbers increase each season and the industry continues to expand.²⁴¹ The idea of limiting numbers before they reach unacceptable levels is more desirable and sensible than reducing numbers but it presupposes that those critical limits are identifiable in advance and can be agreed upon.²⁴² Without information on the impact that tourism actually has on the environment, it will be difficult to calculate these limits.

Some lessons can be taken from the regulation of tourism in the Galapagos Islands, which is renowned for its natural beauty and endemic wildlife. It is also often classified as a fragile environment and as a result, 90% of the land mass was decreed a National Park in 1959.²⁴³ The total number of tourists each year was meant to be limited to 12,000, and only 90 people at a time were allowed to visit an Intensive Visitor Zone.²⁴⁴ While these may be a good measures in theory, experience in the Galapagos Islands reveals that they do not work in practice. Visitor numbers are not actually limited in total or at the various zones.²⁴⁵ Compliance with such limits would be even harder to enforce in Antarctica, due to its size and remoteness. As ships now visit more remote areas, there is less scope for official monitoring as they move away from the vicinity of the stations.²⁴⁶

Numbers can be kept in check to some extent through Environmental Impact Assessment procedures, but the power of this tool is limited because it only evaluates one particular visit, without an understanding of the total cumulative

²⁴¹ There is an argument that tourist numbers exceed the number of scientists in Antarctica, but this has been criticised because they only stay for a few days, while scientists are there for months at a time. One estimation shows that tourism accounts for less than 1% of total human impact. See above n 143, 5.

²⁴² Richard W Butler "Tourism, Environment, and Sustainable Development" 18 no.3 (1991) *Env.Cons* 201, 204.

²⁴³ Above n 64, 174.

²⁴⁴ The Park was divided into 5 categories of zones on the basis of impact already experienced and the activities that would be permitted.

²⁴⁵ This may be because regulation of tourism has been handed over to the tourism industry.

²⁴⁶ Above n 63, 320.

effect of all the visits in one season. Over-visitation of particular sites is a problem that IAATO has recognised, since it requires operators to communicate their itineraries to other vessels to avoid conflicts, but it is not specified how many visits to any one site are acceptable. This is something that should perhaps be restricted once the effects of over-visitation on the environment are better understood.

Manheim suggests that the Committee for Environmental Protection could set limits on the number of visits to each site and the minimum amount of time between visits.²⁴⁷ This would create a valuable property right - access. A type of permit system is suggested where the Committee could allocate an equal number of visits to each operator and let them decide amongst themselves as to who goes where and when. The operators could trade rights to visit other areas. Whether these permits would need to be tendered for depends on whether numbers exceed the numbers available through the permits.

Carrying capacities relate to controlling the number of visitors at a specific site.²⁴⁸ Limiting the number of passengers ashore at any one time is a better way of controlling numbers, but will still require monitoring. Unfortunately, while IAATO limits the number of visitors ashore at any one place at any one time to 100, similar limits cannot be found in the Guidance to Tour Operators in Recommendation XVIII-1. It is submitted that this is a better way of controlling numbers, because blanket limits on total visitor numbers would be arbitrary and excessive.

C. Limiting Places Visited

At present, tour operators can decide what areas are to be visited, subject to the rules concerning Specially Protected Areas (SPAs) and the management plans of Specially Managed Areas (SMAs). As the number of sites increases, the question

²⁴⁷ A permit system is used for managing tourism in New Zealand's sub-Antarctic islands, controlling the number of visits and the maximum guide/visitor ratio (1:20). See Lou Sanson "An Ecotourism Case Study in Sub-Antarctic Islands" in (1994) 21 no.2 *Annals of Tourism Research* - Special Issue: Antarctic Tourism.

²⁴⁸ Above n 143, 5.

of whether to limit tourism to particular areas seems to be one way of using existing tools to manage its impact.

The concentration versus dispersal issue has been debated for some time.²⁴⁹ Is it better to concentrate visitors and have a few hardened sites of visitation or should tourists be spread lightly over many areas?²⁵⁰ While concentrating tourists in specific areas can direct activity away from research sites and environmentally sensitive areas, it is criticised because it encourages "honey-pots" - concentrating people, increasing localised impacts and limiting the scope of activities.²⁵¹

Plimmer suggests that both will happen over time as tourism grows but instead of a single policy answer, he sees site specific management plans under Annex V as addressing this issue because they could be used to prescribe which activities are permitted in various areas.²⁵² After appropriate research, comprehensive management plans could be developed for each site currently being visited.²⁵³ These plans could have clearly defined guidelines including permitted group size and visitor activities, and appropriate times for visits.²⁵⁴ Limiting access in this way would also make supervision and monitoring easier.

The Consultative Parties agreed at the XVIIIth ATCM that there would be benefit in using Antarctic Specially Managed Areas (ASMAs) in some cases so that tourism would not have adverse effects on the environment.²⁵⁵ The tourism industry has

²⁴⁹ This debate arose in relation to Areas of Special Tourist Interest schemes. The Consultative Parties have never designated any ASTIs but it remains open for them to do so. It has been suggested that ASTIs have been overtaken by the more detailed area protection and management provisions of Annex V of the Protocol. See ANARE News, Autumn 1993, 9.

²⁵⁰ This uncertainty was a major reason why Areas of Special Tourist Interest were never designated. Above n 85, 197.

²⁵¹ "IUCN Policy on Antarctic Tourism" (IUCN paper submitted to XVIIth ATCM, November 1992) 5.

²⁵² Above n 143, 5.

²⁵³ This could include a detailed map, access points, marked trails, total number of visitors allowed at one time, frequency and timing of visits, permissible viewing distances.

²⁵⁴ JM Acero & CA Aguirre "A Monitoring Research Plan for Tourism in Antarctica" (1994) 21 no. 2 *Annals of Tourism Research - Special Issue: Antarctic Tourism* 296.

²⁵⁵ Item 7, (57) Draft Final Report of the XVIIIth Antarctic Treaty Meeting, 22 April 1994.

expressed concern at the possible discriminatory use of Annex V to bias access against tourism.²⁵⁶

There have also been some suggestions that land-based tourism should be prohibited.²⁵⁷ Plimmer suggests that environmental impact assessment provisions should provide sufficient safeguards.²⁵⁸ Clearly, there is little support for land-based facilities, but with EIA procedures determined by individual states, this mechanism may not be reliable enough to prevent expansion.

D. The Role of the Tourism Industry

Self-regulation is important due to problems of enforcement, but further regulatory measures should still be taken. While IAATO's track-record has been good so far, there will always be incentives for tour operators to cut corners.²⁵⁹ Manheim welcomes the development of IAATO and its guidelines but does not believe that they are sufficient to govern the growing tourist industry in Antarctica. This is because they are not legally enforceable and do not govern all companies who organize trips.²⁶⁰ As a result, it is submitted that IAATO should play a more secondary, but still essential, regulatory role.

IAATO could become more powerful if all tour operators were members, because then, the threat of expulsion and subsequent commercial implications would serve as an effective deterrent from non-compliance than present consequences under the ATS.²⁶¹ British Antarctic Tour Policy confers more power on IAATO because tour visits will only be considered from fully affiliated IAATO members. Consequently, non-members will be denied permission to visit British research

²⁵⁶ Above n 98, 103.

²⁵⁷ Greenpeace have proposed this. Interview with Alan Hemmings, Greenpeace.

²⁵⁸ Above n 143, 6.

²⁵⁹ Empirical data suggests self-regulation may not prevent negative impacts on the Antarctic environment. For example a boat driver was reportedly smoking while transporting passengers ashore, passengers have touched penguins and numbers ashore have exceeded 100. Above n 140, 180.

²⁶⁰ Above n 166, 3.

²⁶¹ See discussion on IAATO in Part V, C.

stations.²⁶² This policy should be adopted by other governments, because it can only serve to improve performance standards of tour operators. It should be remembered that IAATO guidelines are more rigid than ATS guidance under Recommendation XVIII-1.

There is also another important role for the industry to play. Experience demonstrates that where tour operators are closely involved in developing codes, they obtain a greater sense of 'ownership' of the resources and this promotes responsible action and improves compliance.²⁶³ Any successful management regime will need to be supported operationally by tour operators, because there are few mechanisms for enforcing legal regulation.

The implementation of any regime ultimately is likely to depend on a high measure of voluntary compliance. Direct consultations with and routine involvement of the tourism industry will enhance an already high intention to comply in the most constructive manner.²⁶⁴

The industry can also bring wide experience to Antarctic deliberations on regulating Antarctic tourism. This was recognised when IAATO was invited to remain after the informal meeting in 1992 to attend a formal session of the ATCPs as an observer. This participation in decision-making has continued. IAATO's involvement in future management will also avoid unwarranted or discriminatory regulation of Antarctic tourism.²⁶⁵

E. Co-ordination

Article 6 of the Protocol calls on the parties to co-operate in the planning and conduct of activities, but does not expressly deal with the intricacies of co-

²⁶² Debra Enzenbacher "Tourism at Faraday Station: An Antarctic Case Study" in (1994) 21 no. 2 *Annals of Tourism Research* - Special Issue: Antarctic Tourism 308.

²⁶³ Michael Hall, Mariska Wouters "Managing Nature Tourism in the Sub-Antarctic" in (1994) 21 no. 2 *Annals of Tourism Research* - Special Issue: Antarctic Tourism 370.

²⁶⁴ PATA Statement XVth ATCM (October 1991) 2.

²⁶⁵ Above n 143, 7.

ordination and reporting tourist expeditions.²⁶⁶ The multi-national nature of Antarctic tourism and associated jurisdiction problems make it difficult to monitor numbers, cumulative impacts and achieve consistency and uniformity in regulating activities. Therefore, in order for a tourism management plan to be comprehensive, some form of international co-ordination is essential.

At present, on a national level, American tour operators have met annually for the last three years at the National Science Foundation/Antarctic Tour Operators Meeting. German based operators have also begun to meet. While this is undoubtedly a step forward, it would be more desirable to assemble all tour operators. IAATO goes further towards achieving this, but still falls short of effective international co-ordination as not all tour operators are members. Despite the efforts of these organisations, there are still problems concerning schedule co-ordination.²⁶⁷ Conflicts in schedules need to be avoided and time intervals between landings should be increased.

The Committee for Environmental Protection seem the obvious choice for assembling all tour operators together annually because it is more independent. Much of the necessary co-ordination could be adequately performed by the CEP but whether this is possible depends on how much power the Consultative Parties are willing to give the Committee.

Another way of co-ordinating tourism management policies is for 'gateway nations' to meet - Chile, Argentina, Australia, New Zealand, and South Africa. Any expedition leaving from these last ports of call needs to have had an Environmental Impact Assessment, and these countries can require an operator to prepare one if they have not already. All tour expeditions have to leave for Antarctica via one of these countries, so the gateway countries have a certain degree of control that can be exercised on those wishing to use their ports and other facilities.

²⁶⁶ Above n 166, 5.

²⁶⁷ The USAP Observer Program 1993-1994 reported conflicts of schedule co-ordination between several ships. Over-crowding also detracts from the tourist's Antarctic experience.

These nations could meet and develop common understandings and standards and exercise these in the same way. This will provide the consistency that is presently lacking and provide an overview of Antarctic tourism, rather than a series of different national responses. It should also be remembered that the Consultative Parties have been unable to reach agreement on jurisdiction issues and it is far more likely that five gateway nations would be able to do this. This would be a more practical arrangement, which would not require them to specify legal rules.

A number of tour vessels are registered with nations that are not parties to the Protocol, so the Protocol may not apply. The Treaty parties need to find ways to place legally binding obligations on all who conduct and participate in tourist ventures in Antarctica, and it is submitted that an co-ordination via the gateway states would achieve this.

F. Observer Schemes

If the idea of limiting numbers and access to various tourist sites is accepted, then effective enforcement through an observer scheme is necessary. This would also ensure compliance with ATS Guidance for Visitors and Tour Operators, and IAATO guidelines. Some national governments from which tour ships originate have developed observer programmes.²⁶⁸ Manheim suggests that it may be required under Article 13 of the Protocol, which calls on each party to "take appropriate measures...to ensure compliance with the Protocol."²⁶⁹ The United States has run a monitoring programme since the 1991-1992 season and all US ships will be observed during the 1993-1994 season.²⁷⁰ This programme is reviewed annually by the National Science Foundation and is considered highly satisfactory.

²⁶⁸ Above n 143, 6.

²⁶⁹ Above n 166, 7.

²⁷⁰ Valene Smith "A Sustainable Antarctic: Science and Tourism" in (1994) 21 no. 2 *Annals of Tourism Research* - Special Issue: Antarctic Tourism 224. During the 1992-1993 season, 5 employers were employed to cover 7 cruises on 5 different ships run by 4 different tour operators. 56 landings and 1123 passengers were observed during 99 cruise days. Above n 52, 112.

The New Zealand government requires an observer to be onboard any ships which are visiting either Ross Dependency huts over which they have jurisdiction, or their sub-Antarctic islands.

Any vessel wishing to visit Scott Base and/or any Historic Hut in the Ross Dependency shall carry a New Zealand Government Representative(s) approved by the Director of the New Zealand Antarctic Programme and who is fully conversant with all Antarctic Treaty requirements ("the officer(s)").²⁷¹

Monitoring will have to continue on a national level, due to the uncompromising position taken by the Consultative Parties, against any independent inspectorate body. National legislation also has the advantage of being more enforceable than Treaty provisions. For this to be effective, there will need to be high standards of reporting and communication between countries. Penalties must be seen to accompany non-compliance.

Naturally, having an observer on board will encourage compliance, so it is best to have observers on all ships, and not just a sample group of ships. By co-ordinating the gateway states legislation, observers can be placed on all ships, even if a ship is not subject to the provisions of the Protocol. IAATO has stated that it welcomes a voluntary observer programme on tourist visits, since it certifies good behaviour that is normally the rule for operators.²⁷² If IAATO and its guidelines are enforced by independent national observer schemes, then the concerns about IAATO's self-interest and compliance, are no longer relevant.

When discussing any sort of monitoring system, it must be remembered that there are limited resources for current observer programmes, there is a vast area involved and there is an increasing number of operators and cruises.²⁷³ There are questions

²⁷¹ Schedule 5, New Zealand Antarctic Programme Tourist Visitors Permission. The Approved Officer(s) will be made available from the New Zealand Antarctic Programme and/or the Department of Conservation and will observe all ship and shore activities and report on departures from information supplied pursuant to Schedule 2.

²⁷² Joint PATA/IAATO Statement to XVIIth ATCM, Venice November 1992.

²⁷³ Above n 52, 111.

as to who should cover the costs of observers, and of managing Antarctic tourism generally. At present, the tour operators benefit financially from tourism, and it is suggested that permit fees be introduced to at least recover the costs of observers.²⁷⁴

G. Liability Annex

Under Article 16 of the Protocol, "...the Parties undertake to elaborate rules and procedures relating to liability for damage arising from activities taking place in the Antarctic Treaty area...". Negotiations are underway to draft a suitable liability Annex, but they are likely to take a long time. Since this annex would apply to all activities, it will provide "legal potency" to the Protocol. The effects of liability regimes in other jurisdictions show that operators will be more careful and comply with regulations because they run the risk of being liable. Procedures are necessary to assess liability for damage caused by human activity in Antarctica, consistent with principles of international law, regarding state responsibility for damages.²⁷⁵

There are a number of issues that must be resolved.²⁷⁶ Firstly, will the liability regime cover all activities such as research and tourism, alike or will there be different regimes for different activities? The notion of 'damage' must be defined, and this will require assistance from scientists. One idea is to define damage as an impact beyond that which is negligible or judged to be acceptable pursuant to the Environmental Impact Assessment.²⁷⁷ The problem with this is that it opens up the possibility of freeing an operator from liability via their EIA.

²⁷⁴ This would follow the example of regulating tourism in NZ's sub-Antarctic islands, where permit fees cover costs of tourism management and that is all.

²⁷⁵ Remarks by Christopher Joyner "The Future of the Antarctic Regime - New Directions" (1991) ASIL Proceedings 461, 466.

²⁷⁶ These were identified in "Liability Annex to the Protocol on Environmental Protection to the Antarctic Treaty" (submitted by Germany, XVIIIth ATCM, April 1994).

²⁷⁷ "Answers of the States to Professor Wolfrum's Questionnaire on the Annex on Environmental Liability in Antarctica" in "Liability Annex to the Protocol on Environmental Protection to the Antarctic Treaty" (submitted by Germany, XVIIIth ATCM, 10 April 1994) 2.

The Consultative Parties will also have to decide on the appropriate standard of responsibility. Most international instruments use the principle of strict liability. The question of defences must also be resolved, and whether there will be different ones for different activities.

Another issue is how to calculate the amount of damage owed and whether this is limited to environmental damage or additionally includes any damage suffered by a third party. As to who the appropriate debtor is, it is suggested that the operator is liable for the damage caused but the State is liable in connection with its responsibility to supervise and approve.²⁷⁸ The total amount of compensation should be unlimited but the burden of costs should be met by several entities. Tour operators will need adequate insurance to cover these risks.

There will also need to be some kind of institution to decide on claims. Finally, all of these issues must be fully integrated with the Antarctic Treaty and other conventions and measures in the Antarctic Treaty System.²⁷⁹

VII. CONCLUSION

Clearly, Antarctic tourism requires a response which focuses on the unique issues that it creates. Developing a regime for the Protocol on Environmental Protection will take many years, but this provides the opportunity to use these regulations and tailor a more specific approach to deal with tourism. The main problems seem to be enforcement and co-ordination, both of which the Antarctic Treaty Consultative Parties have failed to address.

In light of these constraints, it is submitted that national legislation and tourism management policies are the best way to deal with these inadequacies. National legislation will always be more enforceable than international law, which is weakened by international politics and economics, and the inflexible attitudes of

²⁷⁸ Above n 276, 12.

²⁷⁹ Above n 275, 465.

states towards sacrificing sovereignty. However, the Protocol does provide the framework to enable effective national legislation. For example, site management plans will be an important tool, as they will be based on information about how much human impact a particular environment can sustain. While the Protocol does have some shortcomings, some of which should be amended, it is significant that it is the first attempt to manage the environment of an entire continent.

Due to the multi-national nature of Antarctic tourism and cumulative impacts, these national responses must be co-ordinated on an international level. This co-ordination will improve sharing of information and co-operation between states as well as enabling universal and consistent implementation of common guidelines that will apply to all tour operators. Independent observer schemes should be incorporated so that regulations are complied with, an area that the Antarctic Treaty System has been unable to deal with effectively.

The Committee on Environmental Protection would seem the likely mechanism to achieve this, but it is suspected that the Consultative Parties will limit the Committee's functions. A more effective means of ensuring consistency of regulation and enforcement is through the gateway states meeting and co-ordinating guidelines. This has the additional advantage of catching tour operators, who are not bound by the Protocol.

In light of these proposals, IAATO's role in regulating Antarctic tourism, while essential, should be on a more secondary level. Its members recognise that it is in their interests to comply in order to protect the environment, and this will always be a more powerful incentive than imposing discriminatory and unwarranted regulation. The importance of voluntary compliance with its sound guidelines should not be underestimated.

Finally, information and research will be key in gaining understanding of the effects of tourism on the environment and determining acceptable impacts. Tourist operations can then be managed without derogating from the designation of Antarctica as a natural reserve, devoted to peace and science.²⁸⁰

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